LMS/S05096

Process for Transition of Uranium Mill Tailings Radiation Control Act Title II Disposal Sites to the U.S. Department of Energy Office of Legacy Management for Long-Term Surveillance and Maintenance

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U.S. DEPARTMENT OF ENERGY | Legacy Management

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Contents

Figures

Attachments

Abbreviations

11e.(2)	Section 11e.(2) of the Atomic Energy Act (defines byproduct material resulting from extraction or concentration of uranium or thorium from ore)
ACL	alternate concentration limit
BLM	U.S. Bureau of Land Management
Blue Book	LM *Site Management Guide*
CAD	computer-aided design
CFR	*Code of Federal Regulations*
DOE	U.S. Department of Energy
EMS	Environmental Management System
EPA	U.S. Environmental Protection Agency
FIMS	Facilities Information Management System
GEMS	Geospatial Environmental Mapping System
GIS	Geographic Information System
ICs	institutional controls
LM	Office of Legacy Management
LMS	Legacy Management Support
LTS&M	long-term surveillance and maintenance
LTSB	long-term surveillance boundary
LTSC	long-term surveillance charge
LTSP	long-term surveillance plan
NEPA	National Environmental Policy Act
NRC	U.S. Nuclear Regulatory Commission
RRS	Request for Realty Services
SME	subject matter expert
UMTRCA	Uranium Mill Tailings Radiation Control Act
USACE	U.S. Army Corps of Engineers
USC	*United States Code*

1.0 Purpose

This document presents the process that the U.S. Department of Energy (DOE) Office of Legacy Management (LM) will use for assuming perpetual responsibility for a reclaimed uranium mill tailings site. The transition process specifically addresses sites regulated under Title II of the Uranium Mill Tailings Radiation Control Act (UMTRCA).

2.0 Introduction

UMTRCA established that a government agency will provide perpetual care for closed uranium and thorium ore-processing sites that were operating under a U.S. Nuclear Regulatory Commission (NRC) source material license in 1978 or were licensed thereafter. Transition from a private licensee to DOE invokes a process that is designed to ensure that DOE has no technical concerns with regulatory findings that:

- The remedies are sound and are implemented according to regulatory standards that ensure the site is and will remain protective of human health and the environment.
- The disposal cell was constructed in accordance with applicable regulatory requirements and approved plans and specifications.
- The site, including groundwater and surface water, is in compliance with applicable regulatory requirements or agreements, and pre-transition requirements are closed out to the satisfaction of the NRC or, as applicable, an agreement state.
- The DOE real property position is defensible and protective and establishes enforceable control of land uses that may result in unacceptable risk.
- Post-closure maintenance needs are of a routine nature, and no major actions are foreseen that would transfer unexpected environmental liability or health or cost risks to DOE.
- Site records, data, and other knowledge are adequate to address any questions about design, construction, radiological and groundwater conditions, and surveillance and maintenance patterns and trends.

"Transition" refers to the process of preparing for DOE to assume responsibility for a reclaimed uranium ore-processing mill site from an NRC or NRC agreement state licensee. LM due diligence review of the implemented remedy may begin when a remedy component (e.g., surface closure or groundwater) is completed. LM performs this due diligence to ensure that the site is transitioned to DOE in a stable condition and in compliance with regulations. The remainder of the process begins approximately 2 years before the anticipated date of termination of the specific mill license, and the goal is to complete LM preparations as NRC is ready to concur that reclamation is final.

3.0 Transition Process

The transition process involves:

- Meeting with licensee and regulator representatives to plan the transition process, including other stakeholders (e.g., states, tribes) as needed.
- Capturing and managing site knowledge and information necessary to perform long-term site management.
- Conducting the due diligence needed to develop an adequate understanding of the technical and regulatory basis used for site closure, consisting of the following elements:
  - — Reviewing reclamation plans, as-built drawings, and verification documentation to ensure that the tailings disposal system has achieved stability.
  - — Reviewing groundwater remedy selection, implementation, and termination documentation, including flow and contaminant fate and transport modeling assumptions and predictions, which might include geochemical modeling.
  - — Reviewing historical groundwater monitoring data against established site standards and model predictions; ensuring that groundwater contaminant concentrations have stabilized below applicable standards and that concentration trends have validated model predictions.
  - — Determining adequacy of the long-term groundwater monitoring program proposed by the licensee and as concurred to by NRC and recommending modifications through the Long-Term Surveillance Plan (LTSP) process, as appropriate.
  - — Confirming that applicable state, tribal, or local regulatory requirements identified in the above-mentioned plans and documents have been met.
  - — Verifying that the physical conditions are as documented through site visits.
- Evaluating real property requirements against existing conditions.
  - — Verify that perpetual, unfettered access to the site has been obtained.
  - — Verify (1) that required fee[1] land within the long-term care boundary has been transferred, (2) that all required realty interests have been transferred, (3) that unneeded realty interests have been terminated, and (4) that required federal land and interests within the long-term care boundary have been withdrawn from the federal inventory of public lands.
  - — Determine if institutional controls (ICs) will be adequate.
  - — Assess opportunities for reuse.
- Compiling transition actions into a site-specific action list (punch list, using the Site Transition Framework and Title II Transition Checklist as guidance; see Attachments 4 and 5) and tracking progress through regular communication with the licensee and regulator.
- Consulting with NRC and the agreement states on site transfer boundaries, deficiencies, and regulatory compliance.

[1] "Fee" land or "fee" ownership means absolute ownership of land, and the owner may therefore do whatever he or she chooses with the land.

- Developing an LTSP, site webpage, and site fact sheet and conducting appropriate stakeholder outreach and support.
- Developing an estimate of the cost to conduct annual site surveillance and maintenance according to the scope of the LTSP for submittal to NRC for their consideration and determination of the long-term surveillance charge (LTSC).

With the exception of the periodic due diligence review of site remedy documents and decisions, transition activities are initiated when there is agreement among the licensee, the regulators, and LM that license termination can be achieved at the end of the transition period. All parties monitor site conditions and the regulatory closure process to determine when transition activities should begin. LM monitors site status through communication with licensees and state regulators as applicable and through regular meetings with NRC.

The transition process typically begins when a licensee has completed reclamation of surface materials and has a groundwater remedy under regulatory review. This review consists of LM's due diligence technical evaluation of the completed remedy components. At some sites, the groundwater remedy has taken longer than originally predicted to fully implement, and a substantial period of time elapsed between the point at which the surface closure is complete and the groundwater remedy is fully implemented, after which the site is ready for transition. The licensee will notify the regulator and LM of intent to transition the site. LM will begin the structured process to complete the real property, records, and administrative transition functions, which generally require about 2 years to complete.

The conceptual transition process schedule (see Project Schedule, GANTT Chart, Attachment 1) shows the relative timing of transition activities, sequential dependencies, and estimated durations for individual tasks. Not all elements of this process will apply to the transfer of every Title II site. The actual transition process for a site will vary depending on specific site conditions.

The LM site manager and the Legacy Management Support (LMS) site lead will coordinate a kick-off meeting to initiate transition activities. All parties to the transition will be invited to the kick-off meeting (to include licensee, regulators, LM, and LMS staff). This will be the initial meeting of the transition project team. The team will typically consist of personnel with skills and expertise in site construction and long-term stewardship practices, real property, environmental compliance, hydrology and geology, groundwater modeling, records and geospatial data management, public affairs, and project management.

The 2-year transition process will not begin until several conditions are considered and understood.

- **Land reclamation and physical construction of the disposal cell are complete and stable.** The regulator will have concurred that surface (e.g., tailings and soils) reclamation is complete and that engineered structures are stable. LM will review the specifications of physical closure and may participate in regulator inspections. Any concerns raised by LM should be accepted and considered for resolution by the regulator and the licensee, and any concerns deemed acceptable for resolution should be achievable within the transition period. Pending regulator concurrence on construction completion, along with site knowledge, may be judged sufficient to satisfy this criterion. Risk of schedule slippage resulting from construction problems should be judged to be low.

- **Groundwater stability and compliance should be achieved.** This often entails application of alternate concentration limits (ACLs) following a prolonged groundwater corrective action program conducted by the licensee. The designated class of use for the aquifer underlying and surrounding the site often determines the applicable groundwater protection standards. Final site boundaries cannot be established until groundwater modeling of the contaminant plume is complete and accepted by the regulator. Typically, the greatest predicted extent of groundwater contamination (as shown through modeling) must be contained within the site boundary.[2] LM will review site hydrology and groundwater conditions. LM will evaluate the modeling to increase confidence that future groundwater conditions will not deteriorate and result in unacceptable risk, noncompliance with established standards, or a need for corrective action.

  Groundwater issues may take years to resolve. Long lead-time activities include additional licensee modeling to resolve outstanding groundwater concerns, regulatory reviews, and eventual NRC concurrence. As transition approaches, real property transfer activities should not be initiated unless regulatory closure can be scheduled with some certainty.

- **Site boundaries are finalized**. Once the predicted extent of groundwater contamination has been determined and accepted by the regulator, site boundaries can be established for long-term custody and care. Boundaries may include both ownership and IC boundaries. Along with groundwater concerns, other considerations for establishing the site boundary include buffer areas for access to and maintenance of engineered features, proximity of other recognized boundaries such as road rights-of-way and section lines, topography, and other site conditions such as the likelihood of unauthorized access. The regulator should request written LM concurrence in the final boundaries proposed by the licensee in accordance with the *License Termination/Site Transfer Protocol Between the U.S. Department of Energy and the U.S. Nuclear Regulatory Commission* (DOE and NRC 1998), referred to as the Protocol.

3.1 Principal Transition Activity Tracks

Although the transition process entails activities by project management and numerous support groups, most transition activities occur along four principal and often parallel tracks:

- Project management,
- Regulatory closure,
- Real property, and
- Information management, including records and environmental and geospatial data.

Figure 1 presents a composite flowchart of the tracks. The following sections present the individual tracks and describe the activities in greater detail.

[2] Regulations allow protective measures other than ownership of land overlying contaminated groundwater if site operations were licensed before November 8, 1981, when UMTRCA was enacted (40 CFR 28 Appendix A, Criterion 11[C]).

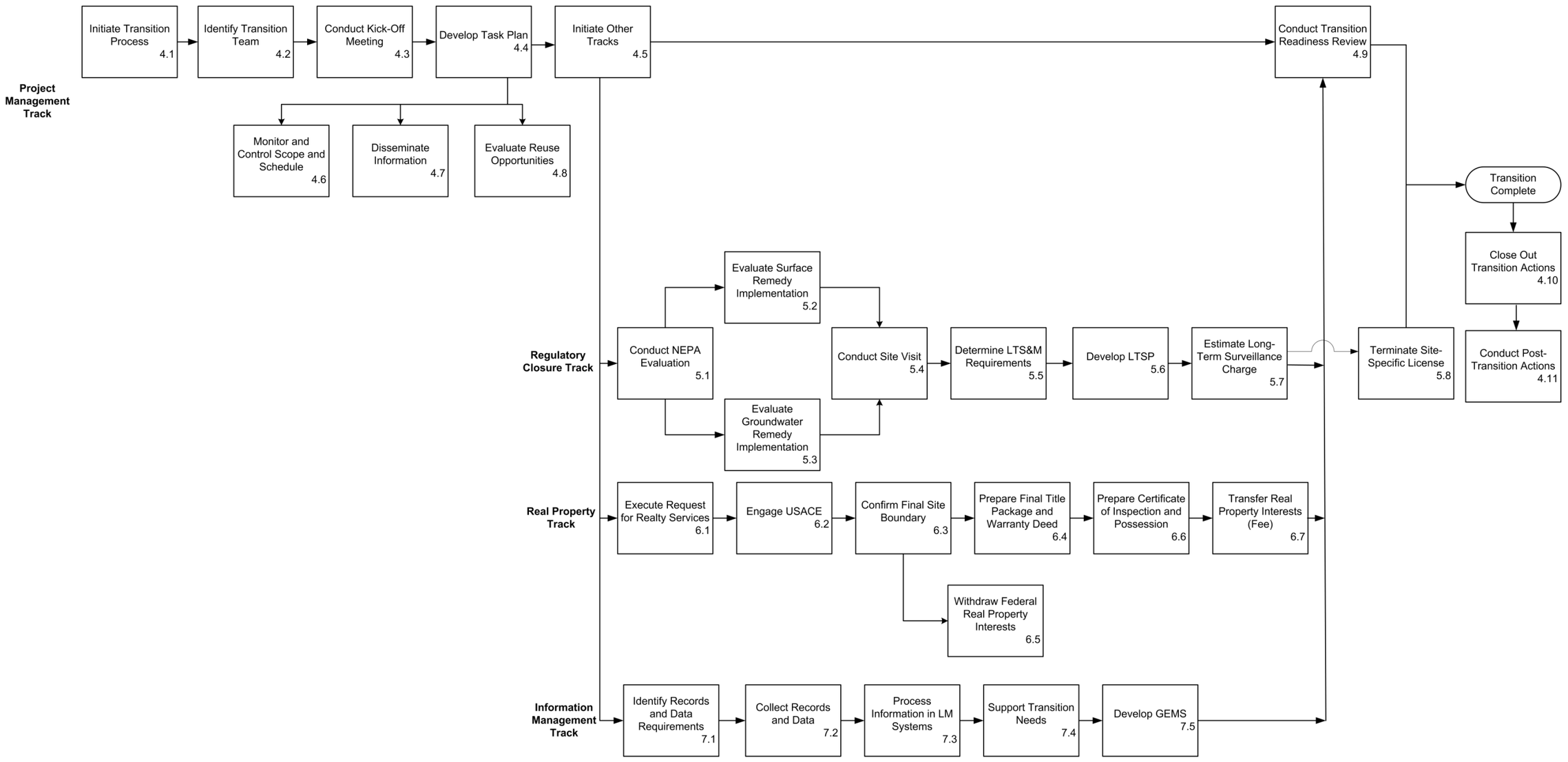

Figure 1. Composite Transition Process Flowchart

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3.2 Principal Parties

The Title II transition process requires interaction, communication, and cooperation among a variety of principal parties to ensure the effective transfer of information during pre-transition due diligence and eventual site transition. Principal parties typically include regulators, licensees, and DOE, as the long-term custodian. Depending on the types of land transfers, the parties will also include the U.S. Army Corps of Engineers (USACE) and/or the U.S. Bureau of Land Management (BLM). State agencies and local governmental entities may also be principal parties.

3.2.1 Regulator

The Atomic Energy Act, as amended, authorizes NRC to control civilian use of radioactive materials. NRC's role as a regulator of the current license is to ensure that each licensee has met all requirements for site reclamation and stability, including groundwater corrective action, prior to termination of their site-specific license. NRC may delegate these responsibilities to a state that establishes a program conforming to NRC requirements (referred to as an "agreement state"). In agreement states, NRC delegates to the state regulatory authority the power to issue, oversee, and terminate radioactive materials licenses. NRC retains the authority to determine whether agreement states are in regulatory compliance with federal requirements. The transition process is coordinated between NRC and the agreement state following Procedure SA-900, *Termination of Uranium Milling Licenses in Agreement States* (NRC 2010). NRC will concur in an agreement state decision to terminate a specific license.

Following the site transition, NRC continues to regulate byproduct radioactive material under a general license issued to DOE. The DOE general license for the long-term care of Title II sites is codified at Title 10 *Code of Federal Regulations* Part 40.28 (10 CFR 40.28) "General License for Custody and Long-Term Care of Uranium or Thorium By-Product Materials Disposal Sites," and requirements are also established at 10 CFR 40 Appendix A.

Four uranium mill sites are regulated under Title II of UMTRCA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and are subject to dual regulation by the NRC and the U.S. Environmental Protection Agency (EPA). The disposal sites at Uravan, Colorado; Church Rock, New Mexico; Grants, New Mexico; and Cañon City, Colorado, are listed on the National Priorities List and are regulated by EPA as Superfund sites. Two of the sites, Grants and Church Rock, are under an NRC specific license. The other two sites, Uravan and Cañon City, are licensed under the authority of the State of Colorado as the primary regulator, using its agreement state status. Under CERCLA, EPA may have requirements that are in addition to those in the specific or general licenses under 10 CFR 40. However, once the licensee has met all NRC or agreement state requirements, NRC or the agreement state will have no basis for denying a request to terminate any specific license (NUREG-1620, Appendix E), and transition will occur. At the time of transition, NRC and EPA will determine the regulatory roles of each agency.

In accordance with the Protocol, because the disposal site is licensed by NRC under the general license, NRC has primary regulatory authority for the radioactive materials and the associated remedies at the site. As the long-term custodian, DOE is responsible only for the materials, terms, and conditions that are required under UMTRCA and for meeting the requirements

included in the general license and that are provided in the NRC-approved LTSP. For dual-regulated sites, any unresolved CERCLA issues that fall outside the scope of DOE's general license will be resolved between the EPA and potentially responsible parties. These concerns are beyond the limits of DOE's custodial authority and NRC's regulatory authority for the site.

A licensee's proposal to co-dispose non-11e.(2) byproduct materials, including those containing listed hazardous wastes or other materials regulated by another federal or state agency, must follow the guidance in NUREG-1620 Appendix I. Before granting the licensee an amendment to allow such disposal, NRC or the agreement state must receive concurrence and commitment from DOE to accept the disposal cell after closure.

3.2.2 Licensee

NRC or an agreement state issues a specific license to a company to process uranium ore and possess the associated source and waste materials. The radioactive waste is regulated as 11e.(2) byproduct material under the Atomic Energy Act of 1954 (Title 42 *United States Code* Section 2011, et seq. [42 USC 2011]). The licensee operates the mill under the specific license until site reclamation is complete and the specific license is terminated.

3.2.3 Long-Term Custodian

The long-term custodian is responsible for maintaining a reclaimed uranium mill site to protect public health and the environment. The regulations indicate that a host state may assume these responsibilities, or the responsibilities may be assumed by another federal agency as designated by the President; however, this has not occurred. If the host state refuses the duties of monitoring and maintaining the site, DOE is designated by law as the federal agency to perform the duties of long-term custodian for reclaimed UMTRCA Title II mill sites. DOE has assigned responsibility for this action to LM. LM's role as the general licensee is to provide long-term surveillance and maintenance (LTS&M) in perpetuity in accordance with the NRC-approved LTSP.

3.2.4 U.S. Army Corps of Engineers

DOE has retained the USACE to complete all transactions necessary to acquire fee land and mineral estates from the licensee. Under a Memorandum of Understanding, DOE contracts with USACE to interact with the licensee to gather the requisite information that will enable USACE to review the title documents, render a title opinion, and prepare a warranty deed for transfer of the fee land to DOE.

3.2.5 U.S. Bureau of Land Management

Many of the Title II disposal sites have both privately held and federal land and minerals within the transfer boundary. Typically, BLM has jurisdiction over the federal lands within the transfer boundaries of the Title II sites prior to site transition. DOE must apply to BLM, or other applicable land management agency, for permanent withdrawal of the federal lands and minerals from BLM's inventory of public land and request the land and mineral resources needed for protectiveness to be placed under the jurisdiction of DOE. The application for withdrawal requires additional National Environmental Policy Act (NEPA) documentation to facilitate the withdrawal action.

3.2.6 Other Stakeholders

Numerous other parties may have an interest in the transition of the sites. These parties can include local government agencies, such as city and county governments, the host state, tribal agencies, nearby residents, or other interested parties. Most sites will have existing real property interests, such as utility easements and rights-of-way that will carry over after transition. Adjoining landowners may have specific concerns, such as grazing and other potential reuses of the transferred land.

3.3 Communication Between LM and Other Parties

The LM staff will define the protocols and lines of communication among the LM/LMS transition team, the licensee, the site regulator, and other parties to the transition. Generally, LM will communicate directly with the regulator and licensee leads to coordinate transition activities. LM realty officers will be the primary contact with USACE regarding fee land transfer and other real property actions and with BLM regarding federal withdrawal actions. As directed by LM, the LMS contractor staff will communicate directly with counterparts in the licensee or regulator organizations to address technical or real property issues.

LM and NRC staff will meet periodically to discuss regulatory issues for UMTRCA sites that are in transition or already assigned to LM for long-term stewardship. LMS contractor staff may provide support to track the status of NRC and DOE actions and commitments on an NRC status sheet. Equivalent meetings will be held with agreement state staffs or other parties integral to the transition on an as-needed basis.

3.4 Statutory and Regulatory Basis

Transition activities must comply with license requirements for site ownership and control under federal statute and regulations, including but not limited to 10 CFR 40.28 and 10 CFR 40 Appendix A; UMTRCA (42 USC 7901 et seq.); and 40 CFR 192, "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings."

The transition team must evaluate transition activities prior to federal actions being taken for site transition. The NEPA evaluation requirements are provided at 10 CFR 1021 and DOE Order 451.1B, *National Environmental Policy Act Compliance Program*.

3.5 Transition Protocols, Procedures, and Guidance

The following are the primary protocols, procedures, and guidance documents that apply to UMTRCA Title II transitions:

- *License Termination/Site Transfer Protocol Between the U.S. Department of Energy and the U.S. Nuclear Regulatory Commission* (DOE and NRC 1998, under revision)
- Procedure SA-900, *Termination of Uranium Milling Licenses in Agreement States* (NRC 2010)
- *Guidance for Developing and Implementing Long-Term Surveillance Plans for UMTRCA Title I and Title II Disposal Sites* (DOE 2012)

- NUREG 1620, *Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978* (NRC 2003)
- NUREG 1623, *Design of Erosion Protection for Long-Term Stabilization* (NRC 2002)
- NUREG 0706, *Final Generic Environmental Impact Statement on Uranium Milling* (NRC 1980)
- *Records and Information Management Transition Guidance*, Guide 243.1.1 (DOE 2015)
- RIS 2011-11, *NRC Regulatory Issue Summary 2011-11 Regarding the Long-Term Surveillance Charge for Conventional or Heap Leach Uranium Recovery Facilities Licensed Under 10 CFR 40* (NRC 2011)

4.0 Project Management Track

The purpose of the activities in the project management track is to manage the site transition process according to an approved task plan[3], to ensure interaction and information sharing among the parties to the transition, and to manage the support functions and activities culminating in a successful transition. With the exception of the kick-off meeting, the activities in this track may occur continually, periodically, or on an as-needed basis. Activities that occur throughout the transition include task planning, monitoring of task budget and schedule, information exchange, periodic transition team meetings, and issues and actions tracking.

The first three actions in the transition process are shown on the Project Management Track (Figure 2). The other boxes on this flowchart do not reflect a linear process but are provided to indicate the functions that are required either continually or on an as-needed basis to maintain project schedule and budget.

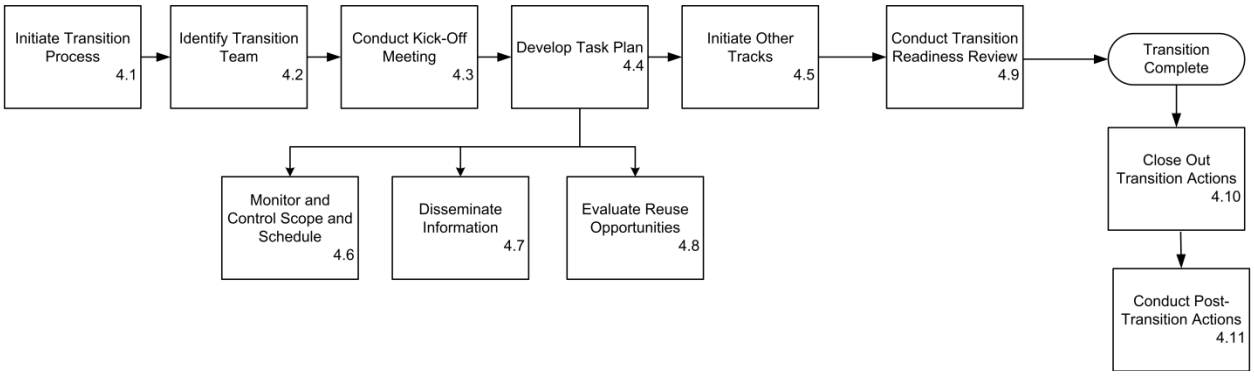


Figure 2. Project Management Track Flowchart

[3] LM generates task plans for multiple years. The plans are managed using approved change control processes. Changes reflect refinement of scope, schedule, and budget as more site information becomes available.

4.1 LM Initiates Transition Process

In conversations with the licensee and the regulator, LM will determine a projected transition date and will initiate the transition process no less than 2 years prior to the projected date. Transition dates are an estimate as to the fiscal year in which site transition is anticipated to occur. Projected transition dates will often slip later in the projected year or into following years. This slippage and the associated causes will be tracked using the established tracking tools discussed in Section 8, "Project Management and Control Tools."

4.2 Identify Transition Team

The LM site manager and the LMS site lead begin the process by identifying the LM support and LMS staff (including staff from technical areas, real property, reuse, records, compliance, environmental and geospatial data) to serve on the LM/LMS Transition Team (transition team). The transition team will consist of the LM site manager, the LMS site lead, and the LM and LMS support staff identified with the knowledge to ensure a successful transition. The LM site manager will identify federal colleagues as subject matter experts (SMEs) in their areas to support transition activities. The LMS site lead will identify needed contractor expertise and resources and will work within the LMS contractor organization to ensure that SMEs are available to address technical and transition concerns.

As the transition process progresses and unanticipated issues arise, the LM site managers and LMS site leads may identify additional resource needs, such as legal counsel or other specific SMEs.

4.3 Conduct Kick-off Meeting

Approximately 2 years before the projected transition date, the LM site manager will set up a kick-off meeting among the internal transition team and all of the appropriate parties to the transition. The purpose of this meeting is to introduce the parties and to establish roles and responsibilities and lines of communication. At this meeting, the team will review the steps common to all transitions and identify issues that may need additional attention or that may impede the transition. The LMS staff will use the Title II Transition Checklist, described in Section 8.4 (See Attachment 5), to determine transition issues that should be included on the site-specific punch list, described in Section 8.5 (see Attachment 6). The items on the punch list will be tracked to completion.

4.4 Refine Task Plan

The LM site manager will provide direction that will be incorporated into a site transition task plan. The site transition task plan defines the scope, schedule, and budget for known transition activities and will be incorporated into an approved LMS task assignment. The task plan will address all anticipated resource needs and will state assumptions that define limits to the project scope. Evaluating the NEPA requirements for the transition is critical, as the timing and resources for conducting Environmental Assessments versus those required for a less rigorous Environmental Checklist have the potential to affect cost and schedule of the transition (see Section 5.1). The task plan will also be incorporated into the life-cycle baseline and will include proposing changes to the transition dates as reported in the LM *Site Management Guide*

(Blue Book) (most recent update), which reflects anticipated dates for sites transitioning into LM.

4.5 Initiate Other Tracks

At this point in the transition process, each support group will be aware of transition issues and will address the actions and information needed in the groups' areas of expertise to accomplish a successful transition.

4.6 Monitor and Control Scope and Schedule

Once the task plan is established and approved by LM, the LMS site lead will implement several functions to ensure adequate monitoring and control of project scope and schedule. The LMS project manager and LMS site lead will provide project management oversight and document project activities in conformance with LM procedures. The LM site managers and LMS site leads will monitor the task plan and make adjustments for new information and changing conditions that may impact project scope, schedule, and budget. The LM work authorization process will be followed to adjust the scope, schedule, and budget baselines. During the course of the transition, performance against the task plan will be monitored and reported on a monthly basis.

During the transition process, additional issues, concerns, or information may arise and may delay the transition past the projected transition date and will result in transition schedule changes. Such changes will be discussed with LM and approved in accordance with the LMS contract. Upon receiving direction from LM, the LMS site lead will develop proposed changes to the task plan and life-cycle baseline. Baseline changes will be implemented in conformance with LM procedures. Baseline changes will be processed as soon as new information becomes available, and the LMS contractor will review the baseline for updates to the project baseline and Blue Book. LM must approve all baseline and Blue Book revisions.

4.7 Ensure Ongoing Team Communication

In addition to the information provided in Section 3.3 regarding communication between LM and other parties to the transition, the following internal transition team communication guidance is provided.

4.7.1 Internal Communication

The joint LM and LMS transition team will hold regular meetings to review the status of project activities, share developments, and ensure that the approach to transition is consistent across the various sites scheduled for transition. At these meetings, LMS staff will review the status of site activities, coordinate activities among functional organizations, resolve issues, and confirm project performance and quality.

Transition team meetings typically will be scheduled to occur prior to scheduled meetings between LM and NRC staff. The LMS staff may support LM in drafting agendas for discussions with the other parties to the transition and for the regular discussions between LM and NRC.

At any time, LM site managers may request regular or unscheduled meetings with LMS staff or SMEs for status review or to resolve specific issues or concerns.

The LMS Title II site lead will provide the LM and LMS staff with regular status reports on all site transition work. Each LMS site lead will maintain a site-specific punch list to track individual actions, responsibilities, and due dates. The tools used to track the status of Title II activities are further described in Section 8 and are provided in Attachments 3 and 4. Significant activities and task plan performance summaries are presented in monthly task assignment reports.

4.7.2 External Communication

LMS Public Affairs staff will ensure that stakeholder questions and concerns are addressed in a timely manner in coordination with LM site managers and LMS site leads. Additional outreach activities may be implemented at the direction of the LM site manager as needed to address stakeholder concerns.

LM maintains a public website at http://energy.gov/lm/office-legacy-management that provides information for each LM site, including the LTSP, any NEPA documents, and other pertinent site information.

4.8 Evaluate Reuse Opportunities

LM and LMS reuse staff will be included in the transition team to evaluate each site for potential reuse opportunities approximately 2 years prior to the scheduled site transition. The reuse team will work with the LM site managers and LMS site leads to ensure understanding of the final site conditions and to discuss viable reuse options. The transition team will work closely with regulators and other parties to the transition, including stakeholders and state and public land management agencies, if applicable, to consider all viable options. This evaluation includes whether there is existing reuse at the site, if reuse can be established for the site, and if reuse maintains site protectiveness. The NEPA evaluation conducted will address environmental concerns associated with reuse activities.

If a site has no reuse potential, this will be documented, and no further action will be taken during transition. If a site has reuse potential, that does not hinder or interfere with LM's custodial responsibilities and site protectiveness (e.g., if grazing occurred historically on the site), it is likely those uses will continue post-transition. Post-transition reuse actions will be documented with the appropriate regulatory authority and within a realty document.

If new appropriate reuse opportunities exist, the LM and LMS reuse team will develop a feasibility paper for the LM reuse lead to present to the LM site manager for consideration. If reuse is determined to be acceptable and is approved by the appropriate parties, the reuse information will be incorporated into the LTSP with the assistance from the reuse team, as appropriate.

4.9 Conduct Transition Readiness Review

As site transition work nears completion and before license termination occurs, the LMS site lead will assemble the site transition team to conduct a transition readiness review. During this meeting, the LMS site lead will ensure that all punch list issues are closed out and any remaining concerns will be addressed to LM's satisfaction. LMS will document the meeting for the site record.

4.10 Closeout Transition Actions

Before the general license takes effect for the transitioning site, it should be determined that all closeout actions have been completed to ensure that site knowledge is preserved and the transition process is finalized. The LMS site lead will issue a records call for all information gathered during the transition. The punch list will be finalized as a record of transition activities.

If a site transition is suspended, the transition team may consider conducting a temporary closeout of some transition activities to preserve the process progress and to define the starting point to resume the transition. The temporary closeout should be conducted with the assumption that staff turnover, not only on the LM transition team, but also with other parties to the transition (e.g., regulators and licensees) and new staff, may not have prior knowledge of site conditions, progress toward the site transition, and decision-making that resulted in suspending the transition. The transition team will use the process tools (see Section 8.0) to maintain knowledge and awareness of the steps taken.

During a temporary transition closeout, activities will be occurring leading up to the eventual transition. Actions by the licensee, NRC, or other parties will be followed and will be evaluated as part of the due diligence. The LM site manager and LMS site lead will determine how to fund ongoing activities and how to adjust the life-cycle baseline to accommodate a delayed transition date.

In conjunction with the parties to the transition, the LM site manager will determine when to restart the transition process. Given the elapsed time and the potential for changed final site conditions, the LM site manager and LMS site lead will determine if the team can resume where the transition left off or if the team should use the transition checklist to revisit all aspects of the transition from the beginning. If the pause in the transition is likely to be lengthy, it may be useful for the LM site manager to document the situation in a memo to the file for future reference.

4.11 Conduct Post-Transition Activities

4.11.1 Lessons-Learned Session

Successful site transition requires input and actions by all SMEs on the transition team. Throughout the process there is potential to gain knowledge and perspective that will prove useful in successive transitions. To capture the lessons learned, the transition team will participate along with Quality Assurance (QA) personnel to identify opportunities for improvement, processes that worked well, which processes should be repeated in subsequent transitions, process steps that can present scheduling challenges, data gaps, and other activities

that should be considered in future transitions. LMS will document the session for the site record. Attachment 7 presents an example of the session conducted for the Maybell West, Colorado, Disposal Site.

4.11.2 Environmental Aspects

LM requires LMS contractor compliance with Executive Orders 13693 and DOE Order 436.1. LM and the LMS contractor have established a joint Environmental Management System (EMS) to incorporate these objectives. The EMS stipulates that environmental aspects be identified for each of its sites, such that baseline information can be gathered, targets can be established, and metrics can be developed to measure progress of site-specific performance and improvements. After transition, the LMS contractor will establish the environmental aspects that apply to the site for routine surveillance and maintenance. Established environmental aspects will be approved by the LM site manager, the LMS site lead, and the Environmental Compliance point of contact.

Improvements to environmental aspects include, but are not limited, to reducing energy and natural resource use, including conserving water, electricity, and fuel; reducing toxicity and volume of chemicals and solid and hazardous wastes generated; and using alternative forms of renewable energy sources such as wind and solar power. Surveillance and maintenance of most Title II sites does not include consuming natural resources, but LM and LMS staff incorporate these concepts into all site activities after transition.

4.11.3 Implement Reuse

After the LTSP is finalized and site transition is complete, the LM and LMS reuse team will work with the LM site manager and LMS site lead to implement approved reuses identified during transition. The LM site manager will manage implementation of any reuse action with assistance from the LM/LMS reuse team, as needed. A Request for Realty Services (RRS) may be initiated if support is required from the Real Property Management group. Implemented reuse will be documented in writing. After implementation of reuse, the LM site manager will notify the LM reuse lead regarding any metrics associated with the reuse for tracking and reporting purposes. The LM reuse lead has responsibility for reporting reuse to applicable organizations and to LM management.

4.11.4 Populate Facilities Information Management System

When transition is complete, a Facilities Information Management System (FIMS) condition assessment will be performed to identify all DOE assets at the site that must be tracked. The FIMS database is DOE's information repository to manage real property assets and interests and their associated costs. In addition, all land transfers, land instruments, and site structures and facilities must be described in the FIMS database. The LMS site lead will work with the FIMS coordinator in the LMS Real Property group to ensure that all assets and land agreements are adequately captured and reported.

4.11.5 Populate ICs Tracking System

All ICs associated with the site must be entered into the Institutional Controls Tracking System along with a date and frequency for monitoring each IC. The ICs entries include all instruments that contain ICs, any pertinent informational ICs, and the physical controls required for site protectiveness and security. For the site physical controls, the frequency of monitoring will likely coincide with the annual site inspection. The frequency of monitoring all other ICs will be at the discretion of the LM site manager and will be based on the need to ensure that the ICs continue to be visible and effective.

4.11.6 Departmental Sustainability

According to the objectives of DOE Order 436.1, *Departmental Sustainability*, or current guidance, DOE sites must implement sustainable stewardship practices protective of the air, water, land, and other natural and cultural resources potentially affected by their operations, and with consideration of the potential effects of climate change. DOE Order 436.1 requires DOE sites to have a Site Sustainability Plan and an EMS to implement these practices. The LM EMS incorporates federal mandates specified in Executive Order 13693*, Planning for Federal Sustainability in the Next Decade* and Executive Order 13653, *Preparing the United States for the Impacts of Climate Change.*

4.11.7 Outreach Activities

Public outreach efforts will be conducted to inform the public about LM activities and encourage public input and provide opportunities for open, ongoing, two-way communication. The primary methods of providing information to the public are the LM public website and electronic communications. A webpage will be developed for the new site that provides information including fact sheets, LTS&M plans, and other site documents.

LM will ensure that the interested parties for a transitioned site are added to LM's stakeholder database, including the party's name, position or organization, and contact information. The LMS contractor maintains the database and updates it at least annually and as new stakeholder information is obtained. Stakeholders who have provided LM with an email address will be notified by email of availability of UMTRCA Title II documents, scheduled meetings, postings to the LM public website, and other information of interest.

LM designed the Geospatial Environmental Mapping System (GEMS) to provide dynamic mapping and environmental monitoring data displays for LM sites. Stakeholders can use GEMS to view a site map, photographs, environmental data, and other information. As Title II sites require ongoing LTS&M and are transitioned to LM, a GEMS site for each will be developed and will be accessible through a link on the site page of the LM public website.

In addition, LMS Real Property staff will identify all third party interest holders within the long-term care boundary, and LM realty staff will issue notifications of change of ownership.

4.11.8 Begin LTS&M

Immediately following the transitioned site being placed under the general license, LM will begin conducting LTS&M in accordance with the NRC-approved LTSP.

5.0 Regulatory Closure Track

This set of activities is designed to ensure that LM receives a stable and protective site that has no post-closure care issues and only minimal maintenance of the final remedy. Activities also support development of the LTSP, which defines LM's LTS&M responsibilities. This track includes the technical review of the remedy selection and execution, and interaction with the regulator to resolve any technical issues that could affect post-closure site integrity and protectiveness, stewardship requirements, and stewardship costs. Figure 3 shows the activities in this track.

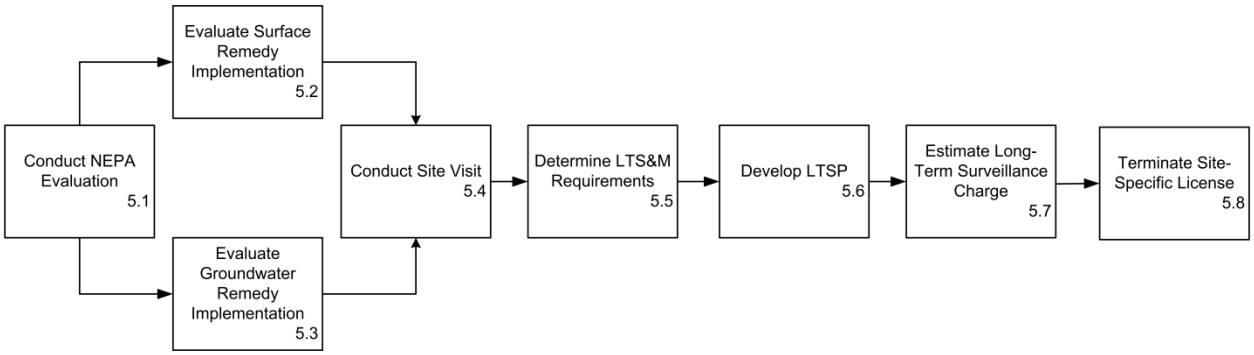


Figure 3. Regulatory Closure Track Flowchart

Regulatory closure activities commence with a review of information on reclamation design, implementation, and final site conditions, including the groundwater remedy, if appropriate. Regulatory concurrence is also essential before the end of these activities and includes satisfactory resolution of any regulatory issues or concerns raised by LM during its due diligence reviews. Processes on this track will typically commence before final regulatory closure has occurred.

LM does not have a regulatory concurrence role in determining the adequacy of the remedy design and implementation. However, the Protocol defines the relationship between DOE and NRC during site transition and until license termination. NRC will consult with LM in reviewing remedy proposals and in determining that the remedy will remain effective under post-closure care.

NRC and LM will resolve technical issues through regular interaction. Both agencies have protocols for issue resolution if the agencies cannot reach agreement.

If regulatory authority has been delegated to an agreement state, LM will also interact with agreement state staff and licensees so that LM will have completed the due diligence evaluation of the remedies and final site conditions by the time the regulator is ready to concur that the licensee's reclamation is complete. NRC and agreement state roles and responsibilities are defined in NRC's procedure SA-900 *Termination of Uranium Milling Licenses in Agreement States* (NRC 2010).

DOE does not have a specific Memorandum of Understanding with Texas, Colorado, Utah, or Washington, which are agreement states where UMTRCA Title II sites are located. Furthermore,

the NRC Agreement State Programs Branch Office oversees the agreement state programs, whereas the NRC Materials Decommissioning Branch oversees the DOE general license at 10 CFR 40.28. However, the Protocol applies to the activities of all NRC elements, so the NRC Agreement State Programs Branch Office will also consult with LM on agreement state regulatory activities for closure of the Title II sites.

5.1 Conduct National Environmental Policy Act Evaluation

Federal facilities are required to comply with NEPA for any action requiring use of federal land, federal money, or a federal decision. The NEPA process is intended to ensure that decision makers consider the environmental consequences of the actions being considered and to take the actions that protect, restore, and enhance the environment. The NEPA process also ensures that the information on the environmental impacts of a federal action is available to public officials and citizens before decision are made and before actions are taken. A NEPA evaluation that considers the site transition must be completed during the planning stage for the transition. If additional actions become necessary during transition process, additional NEPA evaluations may become necessary.

Transitioning sites to DOE is considered a federal action and requires an evaluation of potential impacts to the human, biological, and physical environments associated with a site. LM typically documents compliance with the transition action in an Environmental Checklist, which considers actions associated with the transition and land transfer (10 CFR 1021). Where the site boundary includes public land transfers, LM will be required to complete an Environmental Assessment to accompany the land withdrawal submittal in accordance with BLM requirements provided in 43 CFR 2310.3.

NRC also conducts a NEPA evaluation for the specific license termination action and addresses NEPA requirements in accordance with 10 CFR 51.22 (c)(11) prior to accepting the LTSP and terminating the licensee's specific byproduct material license. LM requests NRC's and licensee's NEPA documentation for the site records collection.

A separate review, which is typically reported in NEPA documents, is required for historic properties. In accordance with Section 106 of the National Historic Preservation Act, LM reviews the site records for any historic property evaluations, which may include special conditions for site activities. Any identified historic features would have to be protected with the appropriate measures. If the site has not been evaluated, LM will conduct the evaluation.

5.2 Evaluate Surface Remedy Implementation

This activity includes LM's review of the approved design, including engineering calculations (as needed) to demonstrate compliance with performance requirements and the ability to withstand design basis events, as well as construction, inspection, verification, and regulatory concurrence documentation. The LM due diligence evaluation might also consider the licensee's modeling of the disposal system water balance to estimate the impact of cell drainage on the groundwater system. LM will request construction as-built data to support this work, in both paper copy and, if available, electronic formats. The transition team will assess the completeness of the records and request additional information, if necessary. The evaluation process will

ensure that site documentation is complete and there are no concerns about long-term integrity or protectiveness.

LM has found that site integrity and cell performance are closely tied to ecological conditions at a site. For example, site integrity may rely on a healthy, sustainable vegetation cover for long-term erosion protection. On the cell cover, vegetation may positively or negatively affect cell cover performance.

In addition to maintaining disposal cell integrity and protectiveness in perpetuity, LM might be required to manage noxious weeds, repair erosion damage, or beneficially reuse the disposal site for conservation or agricultural uses. Documentation of baseline ecological conditions is critical for conducting these future activities. During transition, while licensee staff is available, LM may conduct a baseline ecological inventory to support development of post-closure care requirements and estimate costs for conducting those activities. The baseline ecological inventory includes soil, vegetation, and wildlife assessments. More information on the baseline ecological survey is provided in the Transition Checklist (Attachment 5).

5.3 Evaluate Groundwater Remedy Implementation

This evaluation can be conducted prior to transition in parallel with the evaluation of the surface remedy implementation. The groundwater evaluation should occur after the surface impoundment is completed so that source control has been addressed. This evaluation is performed to determine that the remedy is sound, durable, and has resulted in stable groundwater conditions with concentrations of site-related contaminants trending below established groundwater quality standards, particularly at the point of exposure within the long-term care boundary.

Prior to the transition period, attempts at groundwater compliance often entail a period of licensee corrective action to meet established groundwater quality standards. If the licensee is not successful in obtaining these standards, the licensee may apply for ACLs. The basis of the ACL application is that the groundwater standards could not be achieved and a cost–benefit analysis did not justify the expense of continued actions based on risk to human health and the environment. Licensee groundwater modeling conducted to support the ACL application is intended to determine the maximum predicted areal extent of contaminated groundwater that will exceed applicable standards or background. The results of these assessments could have the potential to influence transfer boundaries and post-transition use restrictions.

LM requests environmental monitoring data, which are entered into LM's environmental data systems. LM also requests a copy of the licensee's groundwater models used as a basis for the groundwater remedy. Licensee modeling data typically consist of contaminant fate and transport models using industry-standard software and methods. LM will also request geochemical modeling results and will discuss with the regulator why geochemical modeling should be performed if it has not already been completed. The groundwater remedy evaluation typically will not entail running the licensee models independently by LMS staff if parameters and assumptions made are reasonable, methods followed accepted practices, and the modeling and the regulator compliance reviews are technically defensible. However, LM will request documentation that groundwater models have been calibrated through a reasonable comparison of observed plume behavior to model predictions.

The technical members of the transition team will evaluate the licensee's groundwater model to ensure that knowledge of site hydrology and model construction is captured for future LM stewards. The objective of the evaluation is to arrive at a defensible conclusion regarding whether the model is representative of the groundwater system and fate and transport of contaminants, as well as whether DOE will be at risk for failing to ensure protectiveness and compliance under long-term monitoring. LM will request access to licensee's hydrologists to capture and record knowledge of the licensee's groundwater compliance process. LM will inform NRC of any concerns regarding the approved groundwater remedy and associated modeling and/or groundwater conditions during the transition period for consideration and resolution prior to the site transition.

5.4 Conduct Site Visit

With the approval of the licensee, LM and LMS staff may conduct site visits to consult with licensee's staff, stay apprised of site conditions, and ensure a thorough understanding of engineered structures and pertinent site features. LM may request that such visits be coordinated with other site inspection trips to the region. Often, when regulators conduct visits and inspections, LM will be invited to observe the inspections and may participate in the discussions in accordance with the Protocol. While DOE has no official role in the regulatory closeout of Title II sites, the regulators and licensees recognize the need to consult with LM on issues of concern to the long-term steward, such as site boundaries, acceptance of non-11e.(2) or hazardous materials in a disposal cell, establishing the long-term care fee, and final surface and groundwater conditions. LM will use the visit to assess the site for departures from as-built conditions and maintenance issues that should be addressed before transition.

At the site visit, the LM site manager and LMS site lead can coordinate with the licensee on design and placement of site-specific surveillance and control features (e.g., signs, monuments, and fencing). Regulations in 40 CFR 28, Appendix A, Criterion 10 allow for site-specific "surveillance and control requirements" to be specified. Boundary monuments are addressed both here and within the real property transfer process. LMS staff will provide specifications for the site marker and warning signs. Other requirements for physical site features such as fences, road restoration, and other access controls should be defined through consultation among NRC, the licensee, and LM. LM will request as-built information for site-specific surveillance features. Specifications for site-specific surveillance features are presented in the *Guidance for Developing and Implementing Long-Term Surveillance Plans for UMTRCA Title I and Title II Disposal Sites* (DOE 2012).

5.5 Determine LTS&M Requirements

LTS&M requirements derive from specific license requirements and evaluations of the surface closure, groundwater remedy, ecological conditions, and reuse or land use issues. In the LTSP, LM will provide a legal description of the site, a detailed description of the final site conditions, and the long-term surveillance program that identifies surveillance frequency and reporting requirements, procedures for visual inspection of surface features, monitoring requirements for groundwater and other environmental media, and requirements for vegetation management. The LTSP will also identify criteria for follow-up inspections, nonroutine maintenance, and emergency measures (10 CFR 40.28(b)(1-5)).The LTSP will also present a complete monitoring

program, specifying monitoring locations, analytes, frequencies, and the rationale for the monitoring program. In addition, the time frame over which LM sites must remain protective means that LM must account for the potential impacts of climate change and evaluate how remedy performance and natural resources might be impacted.

Requirements for managing ICs will be determined through developing and evaluating those instruments during remedy review and real property transfer activities. The requirements will be incorporated into the LTSP, with reference to regulatory drivers. LM will confirm and document other regulatory requirements, such as groundwater standards beyond the site boundary.

5.6 Prepare and Submit LTSP

The LTSP content and format are presented in the *Guidance for Implementing the Long-Term Surveillance Program For UMTRCA Title I and Title II Disposal Sites* (DOE 2012), which invokes the requirements of 10 CFR 40.28 for protectiveness and compliance. Information for the LTSP is assembled from geospatial and environmental data, site records, and real property activities. The LTSP will contain a summary of the surface closure and groundwater compliance remedies in sufficient detail to allow stakeholders to understand the LM strategy for maintaining protectiveness and will include documentation of regulator concurrence that remedies are protective and comply with applicable regulations. The review and evaluation of the proposed long-term groundwater monitoring program is documented to determine if any modifications are technically warranted. Approved modifications to the program are then adopted into the LTSP for NRC concurrence.

The LMS contractor will develop an early draft of the LTSP that will be enhanced as details of remedy implementation and post-closure care requirements are defined and real property details become available. LM may submit the draft LTSP to the licensee to confirm site details and descriptions. When the licensee's remedies are implemented, regulatory concurrence has been confirmed, and the post-closure care program is well defined, LM will submit the draft LTSP to NRC for review of the technical content per the Protocol. NRC may also submit the draft LTSP to licensee and state regulator staff for a courtesy review. All comments on the LTSP should be submitted to NRC for consideration. The LTSP cannot be finalized until the real property transaction is complete and ownership is documented in the LTSP.

The LTSP will present all requirements needed to manage the site. As the landowner (or holder of jurisdiction of federal lands), LM will also assume responsibility for regulatory compliance that might not have a nexus to radiological health and safety, such as noxious weed control. The stewardship responsibilities should be a continuation of licensee's requirements to maintain the site. LTSP requirements should track with the estimate of costs for post-closure care (see Section 5.7).

5.7 Estimate Long-Term Surveillance Charge

In accordance with the Protocol and NRC guidance, NRC and LM will consult on setting the LTSC. Regulations establish that the LTSC shall be sufficient to ensure that required surveillance and maintenance are performed at no cost to the federal government. Regulations at 10 CFR 40.28, Appendix A, Criterion 10 state that "the total charge to cover the costs of long-term surveillance must be such that, with an assumed 1 percent annual real interest rate,

the collected funds will yield interest in an amount sufficient to cover the annual costs of site surveillance." Therefore, as the long-term custodian, LM has a vested interest in NRC's determination of the LTSC. LM must also ensure that the costs of any nonroutine maintenance and other extraordinary costs for post-closure care are considered and recovered; a contingency factor is typically used and set by NRC to address such concerns (e.g., a 15% contingency is applied to the licensee's surety bond to cover the cost of reclamation, NUREG 1620, Appendix C [NRC 2003]). However, NRC makes the final decision for any increase of funding requirements from the minimum charge stated in Criterion 10 ($250,000 in 1978 dollars).

LM will submit an estimate of performing long-term care to NRC for consideration. NRC guidance for setting the LTSC is found in NUREG 0706 Appendix R (NRC 1980) and NUREG 1620, Appendix E (NRC 2003). On September 29, 2011, NRC issued a Regulatory Issue Summary (RIS; NRC 2011) to reiterate its policy regarding the LTSC for applicable uranium recovery facilities. The RIS states that NRC may consider increasing the LTSC for activities including, but not limited to, groundwater monitoring; riprap, erosion, or other cover repairs; fencing; and vegetation control that are undertaken to ensure maintenance and radiological health and safety. Additional information on the LTSC is in the *Guidance for Developing and Implementing Long-Term Surveillance Plans for UMTRCA Title I and Title II Sites* (DOE 2012).

Additional land stewardship activities performed under a specific license prior to site transition, such as noxious weed control, may be necessary under LTS&M to be consistent with other federal, state, and local regulations. Therefore, these additional activities will be included in the LTSC cost estimate that DOE provides to NRC for the final LTSC determination. LM will consider features and conditions from previously transitioned sites that required extraordinary maintenance or evaluation and are similar to the site being transitioned. LM will recommend including these costs if applicable. LM will also recommend that the LTSC reflect the inherent uncertainty in maintaining those features and conditions that were identified.

5.8 Terminate Specific License

LM will express any concerns about site conditions or remedy implementation to regulators during the transition evaluation processes. Therefore, it is LM's expectation that when the regulators concur in termination of a specific license, LM concerns will have been addressed.

6.0 Real Property Track

Once NRC and the licensee have established the final property boundary, work can begin on transferring the real property and other required property rights to DOE. To initiate work, the project submits a Request for Realty Services (RRS) form. Real property activities will be directed by the LM realty officer and LMS real property staff, as directed by the LM site manager in coordination with the LMS site lead.

During transition, it is critical that LM confirm ownership of all property rights and interests that impact the lands being transferred and/or withdrawn. The licensee will provide and LM will confirm the owners of oil and gas, mineral, water, and any other rights within the transfer

boundary. As part of the due diligence evaluation, LM will ensure that the ICs on privately held land are sufficient to protect human health and the environment.

Generic processes for transferring different types of real property assets are shown on Figure 4 and described in the following sections.

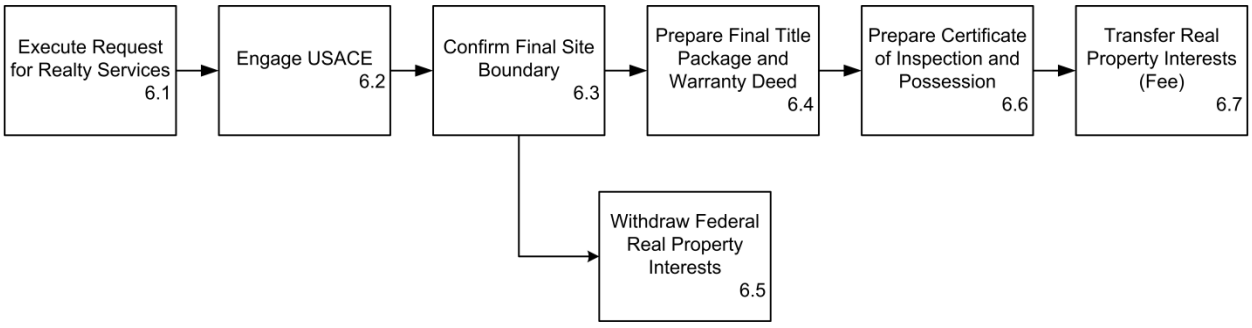


Figure 4. Real Property Track Flowchart

6.1 Execute Request for Realty Services

The RRS form (LM 430.1B) establishes authorization to initiate real property activities. It should be completed as soon as practicable to allow realty actions to be completed during the transition period, but no later than approximately 24 months prior to the proposed transition date. The RRS form triggers LM's interaction with USACE for transfer of the private land and interests and with BLM or other federal land managers for transition of jurisdiction for federal land and interests. The form and instructions for submittal are available electronically on the LM Portal and must be signed by the LM site manager and LM realty officer. The current version of the RRS form is provided in Attachment 2. Users should refer to LM forms for the most current version.

6.2 Engage the U.S. Army Corps of Engineers

Under a Memorandum of Agreement, LM retains USACE as its agent to review all title information provided by the licensee and to prepare a warranty deed for transferring fee land and interests. LM must provide USACE with a scope of work to acquire the fee land and mineral interests. The LM realty officer will be the primary contact with USACE to facilitate information transfer from the licensee and to resolve issues and track progress in obtaining the requisite lands and interests.

6.3 Confirm Final Site Boundary

NRC and the site licensee establish the site boundary on the basis of final site conditions and the projected extent of contaminated groundwater as determined through modeling. The licensee will provide the final site boundary survey as soon as practicable. LM will use this survey as the starting point for determining land transfer requirements and also as the foundation for all mapping. Care should be exercised in drawing a distinction between ownership boundaries and the long-term care boundaries. The ownership boundary survey delineates and describes the land that DOE will acquire in fee or land over which it will have jurisdiction by withdrawal. The

long-term surveillance boundary (LTSB) can encompass additional land or real property interests needed to define the maximum extent of protectiveness. For example, the LTSB will encompass land subject to ICs. DOE may not own or have jurisdiction over some of the land subject to ICs but would maintain a real property interest in the restriction of uses that are established through the ICs. Figure 5 provides an example of this distinction. States vary in their approach to recognizing and establishing ICs. In states where it is not possible to secure adequate protection using ICs, DOE may be required to acquire additional land or other interests to limit access to resources and to ensure that restrictions for land use remain in place.

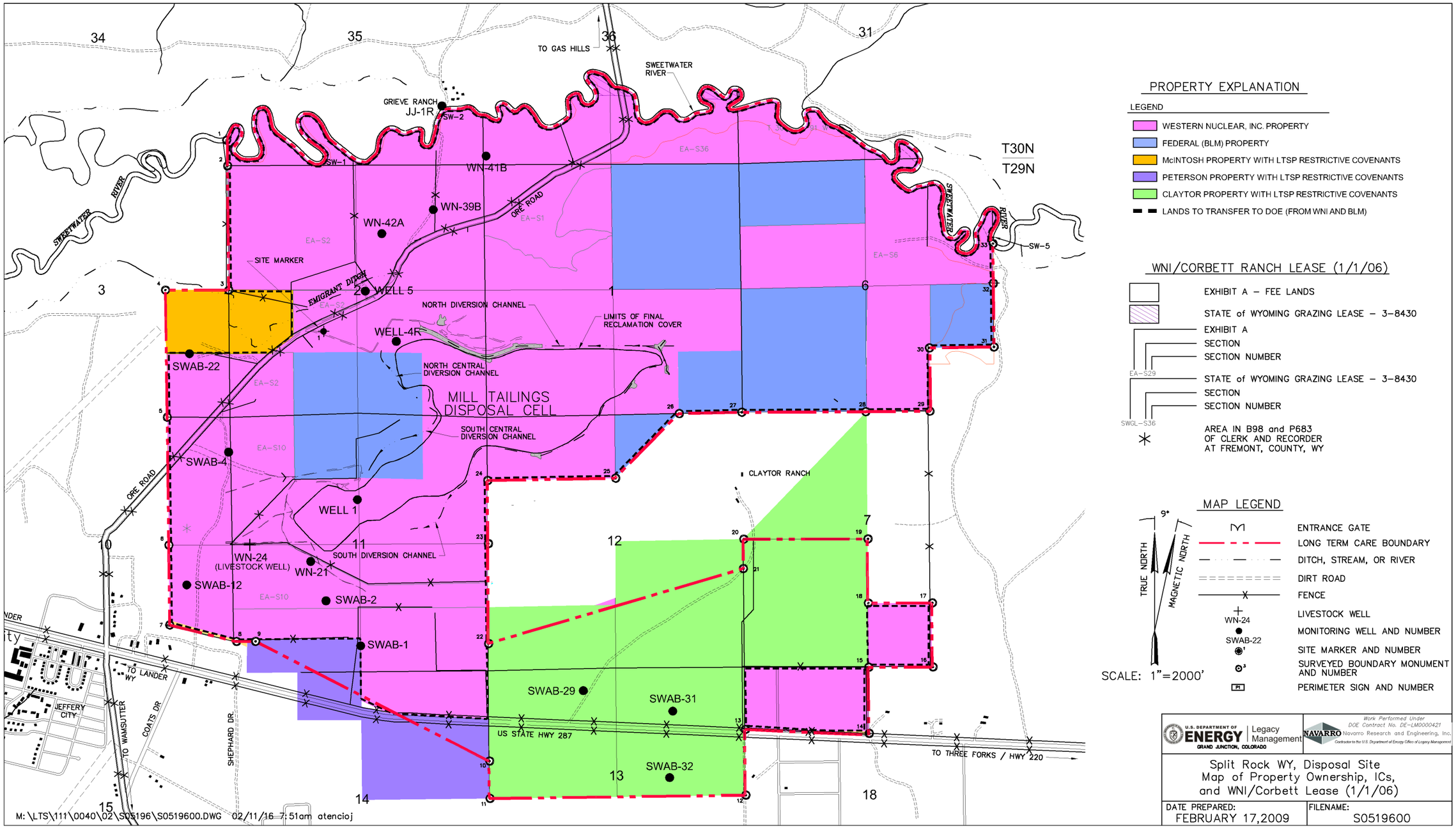
LM has a vested interest in ICs established by the licensee as part of the LTSB. Once it has been determined that there is residual contamination requiring use restrictions, the licensee must first attempt to acquire the land in fee and must establish perpetual and enforceable ICs on lands containing or expected to contain regulated contamination. The ICs may be within or outside the ownership boundary, but they will always be included in the LTSB.

The licensee and other private owners may hold real property interests at the sites, or these interests may fall under the jurisdiction of federal, state, or local agencies. This scenario can be further complicated by the fact that surface and subsurface estates may be severed (i.e., are owned by different parties). It is essential for LM to understand the needs for long-term stewardship and to identify all parties that hold property interests or need rights on transitioning sites.

As needed to understand all real property interests, LMS Environmental and Spatial Data Management staff will create mapping "layers" that define

- Surface ownership,
- Land agreements (easements, permits, ICs, etc.),
- Water rights,
- Mineral rights, and
- Oil and gas rights.

Figure 5 shows an example of the mapping layers created to convey the complicated ownership, jurisdictional oversight, and ICs areas at the Split Rock, Wyoming, Disposal Site.



PROPERTY EXPLANATION

LEGEND

- WESTERN NUCLEAR, INC. PROPERTY
- FEDERAL (BLM) PROPERTY
- McINTOSH PROPERTY WITH LTSP RESTRICTIVE COVENANTS
- PETERSON PROPERTY WITH LTSP RESTRICTIVE COVENANTS
- CLAYTOR PROPERTY WITH LTSP RESTRICTIVE COVENANTS
- LANDS TO TRANSFER TO DOE (FROM WNI AND BLM)

WNI/CORBETT RANCH LEASE (1/1/06)

- EXHIBIT A – FEE LANDS
- STATE of WYOMING GRAZING LEASE – 3-8430
  - EXHIBIT A
  - SECTION
  - SECTION NUMBER
- EA-S29
- STATE of WYOMING GRAZING LEASE – 3-8430
  - SECTION
  - SECTION NUMBER
- SWGL-S36
- AREA IN B98 and P683 OF CLERK AND RECORDER AT FREMONT, COUNTY, WY

MAP LEGEND

- ENTRANCE GATE
- LONG TERM CARE BOUNDARY
- DITCH, STREAM, OR RIVER
- DIRT ROAD
- FENCE
- WN-24 LIVESTOCK WELL
- SWAB-22 MONITORING WELL AND NUMBER
- SITE MARKER AND NUMBER
- SURVEYED BOUNDARY MONUMENT AND NUMBER
- PERIMETER SIGN AND NUMBER

9° TRUE NORTH / MAGNETIC NORTH

SCALE: 1"=2000'

U.S. DEPARTMENT OF ENERGY | Legacy Management
GRAND JUNCTION, COLORADO

Work Performed Under DOE Contract No. DE-LM0000421
NAVARRO Navarro Research and Engineering, Inc.
Contractor to the U.S. Department of Energy Office of Legacy Management

Split Rock WY, Disposal Site
Map of Property Ownership, ICs, and WNI/Corbett Lease (1/1/06)

DATE PREPARED: FEBRUARY 17,2009

FILENAME: S0519600

Figure 5. Split Rock Boundaries and Land Agreements

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6.4 Transfer Real Property Interests in Fee

For land and mineral interests owned by the licensee in fee, DOE will acquire clear title at transition under a warranty deed transferring the land and property interests to DOE. Any mineral rights, including oil and gas, held by the licensee will be transferred with the fee land transfer. The licensee will provide LM and USACE with surveys and descriptions of fee and federal holdings within the ownership and long-term care boundaries. The surveys and descriptions will be used by USACE to develop the final warranty deed and by LM for withdrawal of federally held real property interests. Surface or water rights necessary for long-term management will also be transferred. A water right not needed for long-term care will be returned to the agency with jurisdiction over the right.

The licensee must ensure that all real property interests needed for long-term care are in place at the time of transition, including both onsite and offsite wells needed for groundwater monitoring. The licensee will transfer the wells in the warranty deed and will transfer the well permits with the appropriate state agency. If LTS&M requirements include offsite monitoring, the licensee will establish required access to the wells or other sampling locations and will transfer the required access agreements to DOE at the same time as the fee land and interests. Transition of the site requires "perpetual unfettered" access to the site. If access to the site is acquired from BLM, the licensee must ensure that the permit for the access route is transferable to DOE. If access is over private land, the licensee will secure a permanent right-of-entry in accordance with 10 CFR 40.28.

The licensee will retain a title agent that meets USACE requirements. The licensee will assemble the title package and submit it to LM for review. LM will review the title information to ensure that it meets all LM's needs and to support development of civil and survey base maps. LM will then submit the title package to USACE for review, to secure a title opinion, and to prepare the warranty deed. Should the transition be delayed beyond the 2-year time frame anticipated for transition, USACE may require an update to the title package.

NRC regulations address the licensee's obligation to secure the mineral rights for all land transferred to DOE in fee. Applicable regulations are at 10 CFR 40, Appendix A, Criterion 11 C, D, and E; and 10 CFR 40.28 (d)(1), (2), and (3). These regulations require the licensee to make a "serious effort" to obtain all outstanding third-party mineral rights. The "serious effort" to obtain the mineral rights required by the regulations should (1) inform the owners that the surface estate is being used for the disposal of radioactive materials under NRC's jurisdiction, (2) inform the owners of the regulatory protections in place applicable to the encapsulated materials, and (3) include a defensible "best and final" offer to obtain the minerals that is based on current market valuations. The regulations state that, "in the event that certain rights cannot be obtained, provide notification in local public land records of the fact that the land is being used for the disposal of radioactive materials and is subject to either an NRC general license or specific license prohibiting the disruption and disturbance of the tailings." Additionally, the regulations indicate that upon application, NRC may issue a specific license permitting the use of the surface and subsurface estate provided that (1) the proposed action does not endanger the public health, safety, welfare, or the environment; (2) the site will be restored in accordance with regulatory requirements; and (3) adequate financial arrangements are in place to ensure that if the waste materials are disturbed, the applicant is able to restore the site to a safe and environmentally sound condition.

NRC or the agreement state regulator will review the documentation substantiating the licensee's actions to obtain mineral rights for lands to be transferred and will render a judgment as to the adequacy of the efforts. If rights cannot be secured, and it has been determined that the regulations regarding this have been satisfied (e.g., recorded deed notice), the licensee will send the appropriate documentation to USACE for inclusion in their warranty deed information.

6.5 Withdraw Federal Real Property Interests

Protection of the disposal cell and its associated structures from disturbance from any other surface or subsurface use of the land is provided under the general license at 10 CFR 40.28(d). Some transition site boundaries encompass parcels of federal land and minerals that DOE will acquire under a separate action from the private land transfer. DOE acquires jurisdiction of federal land within the transfer boundary through segregation and eventual withdrawal from the appropriate federal land management agency, typically BLM. Segregation is a 2-year period used to temporarily reserve surface and subsurface rights until site boundaries are finalized and the final site conditions and required restrictions are known. This also provides notice to the public that DOE intends to withdraw the land and interests permanently. DOE will withdraw any unsecured mineral rights held by BLM. However, all withdrawals are subject to prior existing claims, and LM may have to negotiate with owners of existing claims on the site. Should the mineral owner ever release or default on a claim, it will not become available for lease but will become part of DOE's withdrawal. LM will evaluate the presence of all leases and the associated impacts on each site. LM has established a set of conditions that will allow oil and gas lease owners and operators to drill for resources as long as the disposal cell and the site-related groundwater contaminant plume are not disturbed and site integrity can be maintained.

Approximately 2 years before transition, LM will apply to BLM to segregate the requisite real property interests, or if the final boundary is established, LM may apply directly for a withdrawal. Timing of the segregation or withdrawal request is critical to maintaining appropriate control of the federal lands within the LTSB and for ensuring that the segregation will not expire before the land can be withdrawn. When the segregation is approved, it will be published in the *Federal Register*.

The segregation remains in effect for 2 years after publication in the *Federal Register*. During that time, site boundaries must be finalized, and the permanent withdrawal application can be prepared and submitted. NEPA documents must be submitted to accompany the withdrawal application and should be considered in the timing of the withdrawal actions. Withdrawal is not a requirement of transition or a condition of termination of the specific license. Regulations state that the federal government must own the disposal site land, and should the withdrawal not be complete at the time of transition, BLM remains the jurisdictional agency for the subject federal land.

6.6 Prepare Final Title Package and Warranty Deed

Through site visits and communication with the licensee, LM and LMS staff will identify all parties who have a real property interest in a site. LM will determine all interests that must continue after transition and those that, while beneficial to local stakeholders, may not be essential to perform LTS&M. Those that are essential, such as utility easements and other

surface easements or rights-of-way, will be checked against the title package to ensure their continuity. It is the licensee's responsibility to ensure that any right of access or other surface right that is required continues in the long term and is transferred to LM. LM will make a determination regarding other rights, such as grazing licenses, and execute those agreements that are beneficial to LM and other parties.

USACE will prepare the final warranty deed and submit it to the LM realty officer for review. When all issues have been addressed and the package conforms to federal requirements, USACE will issue a title opinion for the acquisition. USACE will execute the warranty deed on behalf of the U.S. Government and DOE. The warranty deed will be recorded in the appropriate county records and a copy returned to LM for records and to be included in the final LTSP.

6.7 Prepare Certificate of Inspection and Possession

The Certificate of Inspection and Possession is a U.S. Department of Justice requirement that must be completed prior to issuance of the warranty deed. It consists of a site inspection by USACE or a designee to verify the land description and to certify the condition of the land and improvements by physical inspection. USACE can delegate this activity to the LM realty officer.

7.0 Information Management Track

LM has two distinct and essential missions with regard to gathering information for site transition and long-term stewardship. The first mission is to have the data necessary to conduct due diligence on the final site conditions and to write the LTSP, allowing the necessary approval from NRC to terminate the site-specific license and place the site under DOE's general license. The second mission is to accumulate the information necessary to address LM's role as the long-term steward for LM sites. The second mission will continue in perpetuity. Experience has shown that existing sites can have stakeholder inquiries about historical site operations and activities long after the operations have ceased, and the remaining site activities consist largely of monitoring to ensure site protectiveness.

The information needed for the two missions consists of collecting site records, environmental and geospatial data, and historical information. Some site records are more current and relate to site cleanup, disposal cell construction, and final site conditions, including groundwater sampling data. The environmental data provide the information necessary to conduct a due diligence investigation of site conditions, well information to understand the hydrogeologic environment at the site, and sampling data to trend constituents in the groundwater or other sampled media. The geospatial data are necessary to build the civil base maps for LM sites that will be used to understand the physical aspects of the site; to have information available for documents, reports, and publically available information; and to provide LM with the geospatial knowledge to ensure successful stewardship of the site. Historical records are the documents that chronicle site history, environmental excursions and resultant consequences, and other information that may be useful to explain what happened at a site over its history.

All records collected for transition and for the site collection will be submitted to the Records group for appropriate handling and administration. Hardcopies of environmental data may have to be transcribed to include in LM environmental data systems to support due diligence

evaluations and site transition needs. The electronic data will be converted and merged into the appropriate databases managed by the Environmental and Spatial Data Management group to support transition needs and to build the geospatial data needed for long-term stewardship.

Figure 6 shows how technical and historical information is gathered and used during the transition process.

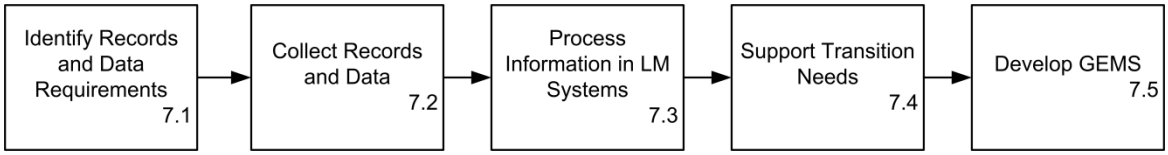

Figure 6. Information Management Track Flowchart

7.1 Identify Records and Data Requirements

LM must acquire complete site information to evaluate the remedy and to ensure that future site stewards have access to necessary site information in order to address possible future changes in site conditions. This will be one of the initial tasks after transition planning and prior to most functional team support. Specifics of data collection should be discussed at the kick-off meeting. Some of the licensees provide principal documents to LM as decisions that are made by the regulator. Documents released after 1999 are available on NRC's Agencywide Documents Access and Management Systems (ADAMS) online document access system. Records released prior to 1999 are available in NRC's Public Legacy Library. NRC assigns the docket number for most sites, which is useful in locating and retrieving the documents from the NRC records management system.

The determination of what site information is needed for both LM missions should happen early in the transition process to facilitate due diligence evaluations and while licensee's staff are more likely to be available and knowledgeable about current and historical records. Site records, environmental and geospatial data, and historical information will be gathered as early in the process as possible and will continue as appropriate throughout the transition process. The LM site manager and LMS site lead, in consultation with their transition team support staff, will assess each site for required and desired information (examples are provided in Section 8.0) and will determine the categories of information to request from NRC, the licensee, or other sources. The LM site manager will identify who will be responsible for pursuing acquisition of any information needed.

Records required to prepare the LTSP are typically offered freely from the site licensee or NRC. Historical records and information may be available, but there may be a cost to gathering and copying the data if LM determines it would be useful to have. For these records, LMS records staff will calculate the cost of retrieval, copying, and transmittal and will provide the site manager with the estimate. The LM site manager, in coordination with LM records staff, will prioritize retrieval of the historical records and will assign the responsibility for pursuing records acquisition. If it is determined to be impractical or not cost effective to retrieve some or all historical records, the records staff will be asked to develop finding aids to facilitate records retrieval in the future.

The licensee will provide environmental data, geospatial data, and engineering and construction data for general data evaluation and archiving, and for geospatial mapping applications. As with the records process, the LM site manager can delegate responsibility to LMS data specialists or other SMEs to work with their licensee counterparts to identify and gather information needed to meet long-term care requirements and to obtain data for accurate property descriptions and LMS contractor mapping requirements. This information will also include hydrologic and geologic information and associated data to facilitate groundwater model evaluation and reproduction, if needed. Current data, closure data, and historical information will be requested in the existing format. Both hard copy and electronic media are needed.

Design and as-built drawings, maps, and data will be used for the LM due-diligence review of engineered structures and systems. The environmental data will be used to support evaluation of surface closure and groundwater compliance and to determine if any modifications to the long-term monitoring program are warranted. Survey and mapping data will be used to capture the site boundary and to support the realty actions in the transition and future stewardship, such as identifying regulated boundaries and areas covered by restrictions.

Environmental and geospatial data are maintained in databases managed by the Environmental and Spatial Data Management group. Environmental data are kept in the LM environmental data system and are available for data evaluation, document production, and future reference. Mapping data are stored in Geographic Information System (GIS) geodatabase and computer-aided design (CAD) electronic file directory system, and once validated, this information is available for mapping needs and for inclusion in documents and reports. These data sets are available to internal users and stakeholders through GEMS. The LM site manager will determine what licensee data or data from sources outside LM will be provided users through GEMS.

7.2 Collect Records and Data

LM has developed a list of documents that are required for transition and preparation of the LTSP and that also will be useful to address stakeholder questions about the site in the future. LM cannot commence work on the LTSP until sufficient documentation has been acquired from the NRC and licensee. Documents might be acquired from the licensee, regulators, or third-party sources. LM will consider if archived documentation held by regulators should be acquired, or if having a finding aid for the data is sufficient to locate data that may be needed in the future.

LM will depend on information from the current specific license to prepare the LTSP and to perform due diligence review of the implemented remedy. Because DOE has no authority over specific licensees, LM may require assistance from NRC in gaining cooperation from the licensee. If LM is unable to gain the licensee's cooperation in securing needed information for the LTSP, the preparation of an acceptable LTSP may be delayed. In addition, LM may require assistance from NRC to ensure that the site is deemed ready for transition for long-term stewardship and has no outstanding technical, regulatory, or jurisdictional issues.

The LM transition team will use the records document checklist (Section 5A of Attachment 5, "Title II Transition Checklist") to identify records and information to be gathered during due diligence and site transition. The list will be submitted to the LM site manager and LMS site lead to determine how and by whom the records and information will be collected. The LMS site lead

will ensure that all records and information exchange occurs prior to the transition. This includes technical data needed to understand site conditions, environmental monitoring data required for trending contaminant concentrations and addressing groundwater concerns, and as-built and land data needed to create an accurate database for mapping. This also includes the licensee groundwater flow and contaminant fate and transport models so that modeling predictions can be re-created and validated against monitoring results.

7.2.1 Documents and Information for LSTP Preparation and Permanent Site Records

A complete list of potential document and information requirements is provided in Section 5A of the Transition Checklist in Attachment 5. The following categories of documentation and information should be requested from the licensee to facilitate transition activities and for retention in the site record collection.

Regulatory Track: Decision documents and any documents that describe site features and final site conditions, including the surface and groundwater remedies.

Real Property Track: Documents that prove chain of title to fee land, legal surveys to the fee land and final site boundary, and any documents that convey land or mineral interests to DOE after transition. In addition, any information on other property, structures, or systems that will remain in place after transition.

Information Management Track: Documents and information needed to develop the LTSP and information and documents that LM will need for long-term stewardship of the site.

Additional needs for site-specific information may develop during the site transfer process, and the licensee may be asked to provide additional documents.

7.2.2 Official Land Survey and Land Agreements

The licensee will provide an electronic copy of the stamped/sealed land survey and legal description that defines the site boundary. LMS staff will ensure that the coordinate system used for the land survey datum is compatible with, or able to be accurately converted to, LM systems. Ideally, land surveys provided by licensees will be consistent with national standards for vertical and horizontal datums (i.e., NAD83 and NGVD88). For some sites, the ownership boundary may differ from the LTSB. For these sites, the licensee will provide a copy of each survey. USACE and LM will use the ownership boundary survey for the fee transfer and withdrawal applications, and the long-term care boundary will define the area regulated under the general license, including areas subject to ICs. LMS staff will plot the survey to ensure that it closes and matches LM's understanding of the boundaries. Real property interests including, but not limited to, land use, easements, rights-of-way, mineral rights, oil and gas rights, water rights, permits, leases, licenses, utilities, and other infrastructure are incorporated into the digital data management systems. These data will be used to create individual data sets or conceptual "layers" to facilitate understanding of all the rights acquired and granted to others at the site.

7.2.3 Site Mapping Features and Metadata

The licensee will provide detailed mapping information and metadata in electronic format compatible with the Esri geodatabase, or shapefiles. The Federal Geographic Data Committee specifies standards for geospatial metadata. A single geographic coordinate system for the information is required. Coordinate systems, horizontal and vertical survey control points, and monuments are recorded and plotted. Coordinate system conversion information for modified or local systems is captured and applied. Legal descriptions are entered into CAD software to plot boundaries. The preferred format for CAD mapping is the AutoCAD (*.dwg) file format. Mapping data should include the following.

7.2.3.1 Imagery

The licensee will provide imagery, including orthophotography and quadrangle sheets. These will be assembled and added to the appropriate database for future mapping use and for use in documents and reports.

7.2.3.2 Existing and Historical Features

The licensee will provide mapping data that will define political and ICs boundaries, vegetation and wetlands areas, structures (buildings, tanks, fences, wells, etc.), topography, contamination areas, geologic units, water features, easements and rights-of-way, property ownership (including surface and mineral ownership), land use, transportation, utilities, and maps of milling facilities and other historical structures that may have influenced contaminant distribution.

7.2.4 Engineered Systems and Structures

The licensee will provide drawing sets or documents associated with sitewide and remedy systems. These will include final design drawings, design specifications, and as-built drawings of physical structures on the site, and operating manuals and procedures for any treatment systems.

7.2.5 Environmental Monitoring Data

The LM site manager and LMS site lead will identify required monitoring data, and the licensee will provide environmental monitoring data, databases, and data sets early in the process and update these data as appropriate until site transition is complete. Preferred electronic data formats are listed in the checklist and will be requested by the SME. In addition to the electronic data, it will be helpful for the licensee to provide a data dictionary describing data field contents, entity-relationship diagrams, or database schemas (if appropriate) for the data format. The Environmental and Spatial Data Management group will provide an electronic data deliverable format for the licensee to provide data in an electronic spreadsheet form.

Data provided by the licensee will include sampling locations, analytical chemistry and radiological data, water levels, well and borehole construction data and logs, well permit data, automated measurements, pumping/flow data, ecological data, sampling plans, and standards. These data will be converted, checked, and merged into the LM environmental data system.

7.2.6 Groundwater Flow, Fate and Transport Models, and Geochemical Models

LMS staff will obtain the following information from the licensee: hydrology, contaminant flow, fate, geochemical, and transport models with associated reports, and related existing data, such as topography, geology, and contamination areas of water and soil.

If any of the above data supplied by the licensee require separate technical information management systems to retrieve it, the licensee will be requested to provide the systems associated with the data. LMS staff will capture and archive necessary software, including documentation, source code, and license agreements for those systems.

7.3 Process Information into LM Systems

Once records and information for a site are received, they will be coded into the appropriate category in the file plan, and hard copies will be sent to the Records Management group for retention. Data received electronically will be downloaded, and a copy will be sent to the Records Management group. Real property data will be directed to the LMS Real Property group for proper coding and disposition. Electronic environmental monitoring and geospatial data will be forwarded to the LMS Environmental and Spatial Data Management group for appropriate disposition and retention. Licensee-provided data will also be archived in its original form.

Site records are accessed through the LM Electronic Recordkeeping System or by contacting a Records Management representative to provide document management services. Records Management representatives can provide an index of holdings for a given site. Principal site documents (e.g., reclamation/design plans and completion reports, ACL applications, groundwater corrective action plans and reports, and associated regulator concurrences) will be archived, and selected key documents will be posted to a common location on the LM Intranet for access by LM and LMS contractor staff.

During the transition process, the acquired electronic technical data will be organized, converted, merged, and stored in LM data management systems. The systems include the LM environmental data system, GIS geodatabase, and the file electronic directory system of engineering and construction design and as-built drawings. The Environmental and Spatial Data Management group will develop a technical task plan (TTP) to delineate the data management tasks, task schedule, and resources needed to process the site environmental and spatial data. Key TTP tasks include 1) determining the datasets that are required to be entered into LM data management systems, 2) reviewing the datasets for completeness and quality, 3) loading the data into their respective data systems, and 4) conducting a verification of the processed data with the LM site manager and LMS site lead to ensure data have been entered correctly into the data systems.

Analytical chemistry results, sampling locations and depths, field sample measurements, units of measurement, water levels, and well construction and lithologic data will be verified, cross-matched, converted, and stored in the LM environmental data system. Mapping data are stored in GIS geodatabase and CAD electronic file directory system. All survey, land agreement, and infrastructure data will be reviewed by LM site managers and LMS site leads and other appropriate support staff. Once validated, the site surveys and other mapping data are available for mapping needs and for inclusion in documents and reports.

7.4 Support Transition Data Needs

The environmental data will be used to support evaluation of groundwater remedy implementation and evaluation of surface closure and to determine if any modifications to the proposed long-term monitoring program are warranted from a technical standpoint. Survey and mapping data will be used to verify the site boundary and support real property transfer processes to identify and confirm regulated boundaries and restrictions. Environmental data loaded into the LM environmental data system become available for data evaluation and document preparation.

The technical data will also be used during the transition process to determine LTS&M requirements, to develop the LTSP, and to review remedy effectiveness with NRC. After site transition, the same data management system will support long-term stewardship activities such as the groundwater remedy evaluation, future designs (as needed), future documents, and the GEMS website.

7.5 Develop GEMS

GEMS provides dynamic mapping and environmental monitoring data display for LM sites. At transition completion, the Environmental and Spatial Data Management staff will consult with the LM site manager and LMS site lead to determine the data sets that will be displayed on GEMS. Data sets displayed in GEMS provide access to environmental and mapping data for use by LM staff, LMS staff, stakeholders, regulatory agencies, and members of the public.

8.0 Project Management and Control Tools

Transition tasks are established and approved as projects. Each project has an approved scope and schedule and approved cost baselines. The work is managed in accordance with the LMS earned-value management system. Baselines are maintained using established work authorization and change control processes. Sections 8.1 through 8.5 present the principal elements and tools of the project management system for Title II site transitions.

8.1 Project Schedule

The project schedule is developed during the planning phase of the project and is integrated into the task assignment schedule baseline to define the critical path for major project activities. The project schedule also indicates the anticipated duration for each activity, which is the main tool to help maintain and monitor progress. Attachment 1 presents a general, conceptual transition project schedule. The site-specific project schedule may not be as detailed as that shown in Attachment 1 because the transition process was deconstructed in the attachment for descriptive purposes, whereas the project schedule will reflect actual work packages developed for the task plan. Project schedules represent an estimate of transition activities that depend on actions to be completed by parties outside of LM, such as NRC and the licensee, and therefore are subject to change.

8.2 UMTRCA Title II Site Transition Status

Generally, the status sheet is updated annually in conjunction with the release of the Blue Book revision or when significant changes have occurred to transitioning sites. It is posted on the SharePoint site and is intended for internal distribution. It covers the primary categories of concern (e.g., regulatory closure, real property, LTSP development, and groundwater contamination) and provides an overview of activities in each of the categories. This update provides the status of transition activities for the Title II sites to the LM staff and helps each transition team member stay informed of site-specific and cross-cutting issues that may impact final transition. The document also identifies LM staff, LMS site leads, and licensee contact information. Attachment 3 is an excerpt from a recent update.

8.3 Site Transition Framework

The Site Transition Framework is an LM policy document that outlines the issues common to all site transitions that must be addressed during the transition process. It was originally developed to accommodate transitions between DOE's Office of Environmental Management (EM) and LM. While many sections of this document are not directly applicable to UMTRCA Title II sites because they are transitioning from private sector owners, it is a high-level guide that provides a reference to transitions in general. The Site Transition Framework is included as Attachment 4.

8.4 Title II Transition Checklist

This checklist is a subset of the detailed checklist that was originally developed for transition of large EM sites (e.g., Rocky Flats, Colorado, Site) into LM. The nonapplicable sections from the larger checklist have been removed to generate a checklist that is more consistent with Title II transition requirements. This checklist is used by the transition team, particularly the SMEs, to identify the actions needed to ensure a successful transition and to identify issues that could potentially impact subsequent LTS&M. It can be revised to include additional items that may be identified in the course of any site transition. It is used in the planning phase to identify actions that will either contribute to the transition or actions that, if not completed, could impede successful transition. Activities identified using the checklist and their associated resolution will be added to the Site-Specific Punch List. Attachment 5 is the current version of Title II Transition Checklist. Users should check with Document Production for the most current version.

8.5 Site-Specific Punch List

The site-specific punch list is an internal tool used by the transition team to track progress of individual actions. It lists the details of each action, responsible person, and the anticipated completion date. It has columns of green, yellow, and red to indicate where effort must be focused. Indicators in the green column signify that actions are progressing as planned, whereas a check in the yellow column shows that an action may require special attention or may be impacting other actions. A check in the red column is an indicator that this outstanding action will most likely impact the ability of the site to transition at the anticipated time. Items in the red column will be discussed with the LM site manager to determine future actions. As items on the punch list are completed, they are hidden to allow the team to focus on outstanding actions. The punch list will be reviewed at each internal transition meeting to allow LM to provide direction,

to make LMS project staff aware of where additional resources may be needed, and to focus the transition team on subject areas that may become problematic. At the completion of the site transition, all items can be unhidden to provide a complete record of transition activities. The final punch list will become part of the site record. Attachment 6 shows an example of a site-specific punch list.

9.0 Quality Assurance

The LMS contractor's quality assurance program applies to the Title II transition project. Specific quality assurance for LMS contractor technical products is enhanced through the standard practices described below. These practices are generally not documented formally for project records.

- Inclusion of pertinent staff—The LMS site lead will ensure that significant recommendations provided to LM have been reviewed by appropriate LMS contractor staff to ensure consideration of all aspects of transition and LM LTS&M needs.
- Technical reviews—Contractor SMEs and project staff will peer review significant LMS contractor technical products. Reviews may be performed on real property instruments, technical reports and analyses, and planning documents.
- Real property data validation—The Environmental and Spatial Data Management and Real Property Management groups will coordinate activities to ensure a consistent and validated data set. Real Property Management and Environmental and Spatial Data Management staff will consider other data uses and incorporate utility into their systems (e.g., for FIMS data management). Geospatial data are managed according to internal procedures and procedures implemented by the Environmental and Spatial Data Management organization to ensure that data quality, security, and integrity are maintained.
- Technical products and transition activity conformance with DOE policy and procedures—Applicable guidance documents are presented in Section 3.5, "Transition Protocols, Procedures, and Guidance," and Section 11, "References." Specific transition guidance was developed to address the transition of sites remediated by the DOE Office of Environmental Management. The Site Transition Framework (Attachment 4) describes a transition process that conforms to the DOE orders governing real property management and legacy workforce obligations, as well as LTS&M requirements. The Title II Transition Checklist (Attachment 5) was developed to incorporate lessons learned from the transition of the Rocky Flats, Colorado, Site to LM. This instrument captures the technical requirements for site transition to ensure that site knowledge is captured and protectiveness is maintained. The Title II Transition Checklist is used as the basis for development of the site-specific punch list.
- The LMS site lead will provide technical oversight.
- Lessons learned sessions for incorporation into ongoing work—Informal critiques will also be conducted among LMS contractor staff. These measures are a part of the LMS contractor culture and constitute one source of quality improvements.
- LM participation in quality assurance activities—The LMS contractor suggestions for improvement will be conveyed to LM staff.

10.0 Lessons Learned

Each transition activity involves different issues to be resolved, but there may be valuable lessons to be learned from what has already been experienced in previous or currently ongoing site transitions. General transition process lessons learned are presented below. Highlights of the lessons learned session held in May 2010 to evaluate the Maybell West, Colorado, Disposal Site transition are presented in Attachment 7.

Project Management Track Lessons:

- **Securing Site Information, Preserving Site Knowledge**—These are two issues that can be addressed by securing as much site information as possible as early as is practicable in the transition process. As a site get closer to transition, licensee staff members may have been reassigned or are no longer available as sources for institutional knowledge of site information. Licensee's contractors for hydrology consultation may no longer be available. Replacements have access to licensee data and documents, but likely will not have as thorough of an understanding of the conditions and issues at the site. Often new staff members are assigned to handle final closure details and are unable to address questions or concerns. Also, as the offices close, records may be transferred to other locations or are lost. This leaves gaps in potentially important site knowledge. It is essential to have groundwater modeling data and to have the models archived along with the historical monitoring data. New data and observations can be compared against the model predictions. Further, this helps LM understand how the site remedies were developed to enhance LM's ability to address departures from predicted groundwater system performance. A thorough review of historical groundwater monitoring data against established site standards allows for detection of potential post-transitional noncompliance problems.

  This applies to each site with ACLs or other groundwater remedies and was particularly pertinent to the Panna Maria, Texas, Site; and the Gas Hills East, Gas Hills North, Split Rock, and Shirley Basin South, Wyoming, Sites.

- **Early Communication in the Transition Process**—Because a site will be transitioned to LM for long-term custody and care, it is important that LM be given the opportunity to comment on documents and decision-making that may potentially affect the site's long-term performance, even though NRC or an agreement state has official regulatory authority over the site. Examples of such site documents and associated decision-making include reclamation plans (including disposal cell design plans and construction reports), completion reports, groundwater remedy technical basis and regulator concurrence documents, Environmental Assessments, changes to groundwater standards or points-of-compliance and points-of-exposure, designation and implementation of ICs, agreements regarding site use, outgranted rights (owner gives easement or other rights to another party), ingranted rights (owner secures easement or rights to another's property), and subsurface minerals. As appropriate, to further this communication, LM should be included on distribution or provided copies of all subject correspondence and documentation in which LM has an interest. NRC posts most docketed materials on their public access website, and for many communications it is incumbent upon LM to obtain pertinent documentation without assistance from the licensee or regulator. Protocols with agreement states should be considered to provide LM with access to the regulatory record. Because NRC or an agreement state has authority over the site, and because a licensee may have concerns about

"answering" to DOE as a second federal agency, LM should submit all significant comments and concerns about pre-transition site actions through NRC or the agreement state regulator. LM will track the progress of regulatory closure through periodic meetings with the site regulator and may participate in NRC or agreement state regulator site visits when invited. During the 2-year active transition period, regular and continual discussions among all parties to the transition will enable concerns to be addressed and resolved in a timely manner. LM will conduct due-diligence reviews of remedy implementation concurrently with the regulatory closure process such that all concerns are communicated and addressed before transition.

Timing and Delays in Transition—More often than not, transition activities have been halted or delayed as a result of unforeseen regulatory issues. This diminishes the ability of LM to efficiently conduct the transition process, schedule resources, and direct subcontractor (e.g., USACE and LMS contractor) activities. Resolution of such issues, however, should result in a site transition that is compliant with regulations, is stable and protective, and is absent of significant increased cost to the federal government for LTS&M. Delays have resulted from licensee difficulties in achieving groundwater compliance and stability, effective surface closure, regulator scheduling, and changing uranium market conditions, over which LM has no control. LM will remain in close communication with licensees and regulators to stay apprised of issues and use the change control process to respond to delays when the schedule changes impact transition dates and resource allocation. LM endeavors to assess and predict the potential for delays to occur and to plan accordingly, while leaving flexibility in resource allocation to respond to changes in transition priorities.

Current and proposed LMS task plans reflect assumptions that address delays. The 2-year transition process is planned to begin in the fiscal year preceding the planned transition year, and LTS&M activities are now assumed to begin in the year following the transition year (previously, LTS&M activities were assumed to commence in the year of transition in case the transition occurred early in the fiscal year). Most licensees operate on a calendar year basis, so the 2-year transition period is presumed to run approximately 2 years from the licensee notification that a site is ready to transition. Also, LM will obtain formal communication of anticipated transition dates from the licensee and will then apply acquired knowledge of regulatory closure processes to determine realistic transition dates.

DOE will remain in close communication with licensees and regulators to stay apprised of issues and will use the change control process to respond to delays when the schedule changes impact transition dates and resource allocations.

When transition is delayed, LM will document the circumstances that resulted in the delay and the progress achieved to the point that transition work is suspended. If the delay is likely to extend long enough that staff turnover might occur, LM will consider whether a transition closeout process should be conducted to ensure that site information is archived in LM systems and transition knowledge is preserved for when the transition process restarts.

Regulatory Closure Track Lessons:

- **Due Diligence**—Licensing regulations stipulate that DOE will suffer no cost for long-term custody and care except for the administrative cost of transition. Therefore, LM may elect to review remedy design and implementation to confirm there will be no unanticipated costs to maintain site integrity and protectiveness after transition. Confirmation entails reviewing

and evaluating the technical basis for remedy decisions and remedy implementation. This may include:

— Reviewing hydrology and contaminant distribution and behavior in groundwater, as well as modeling predictions and monitoring requirements, to arrive at an independent appraisal of model validity and to reduce the potential that LM will have to respond to exceedances of applicable groundwater standards or unacceptable risk.

— Reviewing the actual and predicted performance of a surface closure to reduce the likelihood that LM will have to respond to threats to the impoundment integrity from such occurrences as erosion and riprap degradation. The evaluation might also include review of the water balance and drainage potential of the disposal cell developed by the licensee.

— Reviewing potential exposures and associated controls to determine the adequacy and enforceability of controls in place at transition.

The due diligence activity also allows LM to ensure that site documentation is complete.

Several recent occurrences have shown the prudence of exercising due diligence before transition:

— Severe erosion was documented at the L-Bar, New Mexico, Disposal Site during the first annual inspection in 2005. The integrity of the disposal cell was not threatened at that time, but runoff diversion structures were filling with sediment faster than expected, which would eventually affect the disposal cell. Therefore, LM constructed erosion control structures to reduce sedimentation.

— Radiologically contaminated soil was found at the base of the tailings impoundment dam at the L-Bar, New Mexico, Disposal Site during LM's first annual inspection in 2005. LM remediated three locations of contaminated soil the following year.

— Groundwater monitoring results have exceeded the uranium ACL at the Bluewater, New Mexico, Disposal Site. LM installed additional monitoring wells on the site and evaluated groundwater from offsite private wells to determine the degree and extent of contamination. A contaminant plume extends beyond the site boundary and LM is evaluating the path forward in consultation with NRC.

— Groundwater monitoring results have exceeded ACLs at the Shirley Basin South, Wyoming, Disposal Site since LM's first monitoring event in 2005. LM installed additional monitoring wells to obtain sufficient data to reevaluate site groundwater and to demonstrate that contaminated groundwater has not migrated offsite.

LM bore the full cost of these responses.

Due diligence in data collection and migration has resulted in valuable lessons learned. LM began migrating historical groundwater monitoring results into the LM data management system. Access to these data has been instrumental in achieving notable and positive outcomes for sites in transition. Reviewing hydrology and contaminant distribution in groundwater, as well as modeling predictions and monitoring requirements, allows LM to arrive at an independent appraisal of model validity and to help to ensure that LM will not have to respond to exceedances of applicable groundwater standards or unacceptable risk. To accomplish this, LMS staff transcribes historical groundwater monitoring results into the LM data management system, performing quality assurance and describing the data while

licensee institutional knowledge is available. This allows plotting contaminant trends to determine if concentrations might exceed compliance limits after transition or if other protectiveness or regulatory issues might arise. Access to these data has been crucial in performing a thorough evaluation of site hydrology and groundwater contamination before transition.

Several examples include:

— During preparation of the LTSP in 2009 for the Gas Hills North, Wyoming, Disposal Site, a review of historical groundwater data showed that the radium concentration had exceeded an ACL on several occasions beginning in the late 1980s and as recently as 2009 (just prior to anticipated site transition). Further evaluation of the historical data determined that the exceedances appeared to be the result of natural fluctuations in background concentrations in the uppermost aquifer, which hosts uranium mineralization, and were not related to cell performance. There was no correlation with other site-related constituents. This review and evaluation of historical data allowed LM to obtain regulatory acknowledgement through the LTSP that these sporadic radium exceedances alone did not indicate a regulatory noncompliance issue or the need for corrective action. The LTSP states that the results of other processing-related constituents (such as nitrate, chloride, and sulfate), which are generally low and stable in background groundwater, would also need to be trending toward their respective standards or exhibit a significant change in behavior, such as a sharp upward trend, before an evaluation of cell performance would be warranted.

— For the Split Rock, Wyoming, Disposal Site, a review of groundwater data showed that uranium concentrations in a 2009 replacement well had increased significantly and were likely to exceed the ACL. As a result of this observation and concern, NRC directed the licensee to perform additional monitoring to determine if the groundwater standard would likely be exceeded following transition.

Real Property Track Lessons:

- **Timing of Segregations and Withdrawals from BLM**—Transition dates must be monitored continually to coordinate the preferred option of having the federal and fee land transfers completed for a fixed transition date. Site transitions rarely occur at the originally projected transition date due to unforeseen and uncontrollable events. If there is fee and federal land to be transferred, timing of the segregation and withdrawal of the federal land and mineral portion to coincide with the fee land transfer can be difficult. While the federal land withdrawal may not need to occur at the same time as the site transition, there may be consequences to land uses on federal land that may be problematic if the required land and interests are not under DOE jurisdiction. The segregation is a 2-year action that suspends mining and mineral leasing on the land (subject to prior existing rights) and puts the public on notice that some of the rights on either all or a portion of the segregated land will transfer to DOE. The 2-year time frame gives BLM time to address comments from the public, provides protection of the resources to be withdrawn, and gives NRC and the licensee the opportunity to establish a final transfer boundary. When the withdrawal is complete, as signified by issuance of a Public Land Order and publication in the *Federal Register*, the jurisdiction of the requested land and rights transfers to DOE. If DOE secures a withdrawal of the federal land portion, and the transition does not happen (i.e., the site is sold or reopened for activity), DOE would have rights it neither needs nor wants. If the federal land

transfer is only in the segregation stage, the segregation can simply expire, and the land would stay in BLM's inventory of public land. There could be risk to DOE if no mechanism such as a segregation is in place to protect the real property interests (i.e., minerals), and third parties may establish real property rights. These rights would become senior to DOE's rights should a segregation and withdrawal be needed in the future.

This situation occurred for the Lisbon Valley, Utah, Site. With a firm transition date communicated by the licensee, DOE applied for, and was granted, a segregation of the federal land portion. Subsequently, the licensee announced an agreement to sell the site for resumed uranium production. DOE did not apply for the withdrawal, and transition was postponed. DOE will wait until the licensee again seeks termination of their specific license and transition of the site to DOE.

- **Senior and Other Real Property Rights**—At many sites, the surface and mineral estates are severed. A mineral right is severed if the surface owner does not own all or part of the minerals. For privately held land at the Title II sites, the licensee may not own all of the mineral interests under the surface of the land they will transfer to DOE. For federal land, subsurface interests such as mineral and oil and gas rights may be held by others prior to DOE securing the withdrawal of mining and mineral leasing. According to NRC regulations, the licensee must make a serious effort to secure the mineral estate under the private land to be transferred. Should the licensee be unsuccessful, the regulations state that a deed notice must be filed stating the land is being used for disposal of radioactive materials and is subject to an NRC general license. BLM is obligated to administer active leases on the federal land transfers that are senior to DOE's withdrawal. It is essential for all parties to know and understand NRC's and DOE's protections against interference or encroachment on disposal cells and the associated structures. Protections can likely be found in federal and state regulations.

  This situation of a severed mineral estate occurred for the Maybell West, Colorado, Site. The site licensee made the "serious effort" required by the regulations but was unable to secure all the subsurface interests. Protection for the disposal cell against future activity occurring on the "surface and/or subsurface estates transferred to the United States or a State" is afforded in NRC regulations (10 CFR 40.28[d]) and in State of Colorado mining laws. In their best and final offer, the licensee advised the mineral rights owners of those regulations, which require actions that might prove difficult or expensive should they choose to exercise their rights.

  The three Title II sites in Texas are in a region of active oil and gas production. The mineral rights are probably not available, but LM will work through the licensee and regulator to acquire a surface waiver or similar measure that will prohibit entry into the subsurface beneath the sites within a predetermined depth.

11.0 References

10 CFR 40, U.S. Nuclear Regulatory Commission, "Domestic Licensing of Source Material," Appendix A, *Code of Federal Regulations*.

10 CFR 40.28, U.S. Nuclear Regulatory Commission, "General License for Custody and Long-Term Care of Uranium or Thorium Byproduct Materials Disposal Sites," *Code of Federal Regulations*.

10 CFR 1021, U.S. Department of Energy, "National Environmental Policy Act Implementing Procedures," *Code of Federal Regulations*.

40 CFR 192, U.S. Environmental Protection Agency, "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings," *Code of Federal Regulations*.

42 USC 2011, et seq., Atomic Energy Act of 1954, as amended, *United States Code*.

42 USC 7901, et seq., Uranium Mill Tailings Radiation Control Act of 1978, *United States Code*.

DOE Order 436.1, *Departmental Sustainability,* May 24, 2011.

DOE Order 451.1B Admin Chg 3, *National Environmental Policy Act Compliance Program*, January 19, 2012.

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DOE and NRC (U.S. Department of Energy and U.S. Nuclear Regulatory Commission), 1998. *License Termination/Site Transfer Protocol Between the U.S. Department of Energy and the U.S. Nuclear Regulatory Commission,* February.

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Executive Order 13693, *Planning for Federal Sustainability in the Next Decade*, March 25, 2015.

LM Site Management Guide, updated annually (usually in December). Prepared by Navarro Research and Engineering, Inc. for the U.S. Department of Energy Office of Legacy Management.

NRC (U.S. Nuclear Regulatory Commission), 1980. *Final Generic Environmental Impact Statement on Uranium Milling*, NUREG-0706, Office of Nuclear Material Safety and Safeguards, September.

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NRC (U.S. Nuclear Regulatory Commission), 2003. *Standard Review Plan for the Review of a Reclamation Plan for Mill Tailing Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978*, NUREG-1620, Rev. 1, June.

NRC (U.S. Nuclear Regulatory Commission), 2010. *Termination of Uranium Milling Licenses in Agreement States*, STP SA-900 Procedure, Office of State and Tribal Programs, Washington, DC, May 17.

NRC (U.S. Nuclear Regulatory Commission), 2011. *NRC Regulatory Issue Summary 2011-11 Regarding the Long-Term Surveillance Charge for Conventional or Heap Leach Uranium Recovery Facilities Licensed Under 10 CFR 40***,** RIS-2011-11, Office of Federal and State Materials and Environmental Management Programs, Washington, DC, September 29.

Attachment 1

Project Schedule

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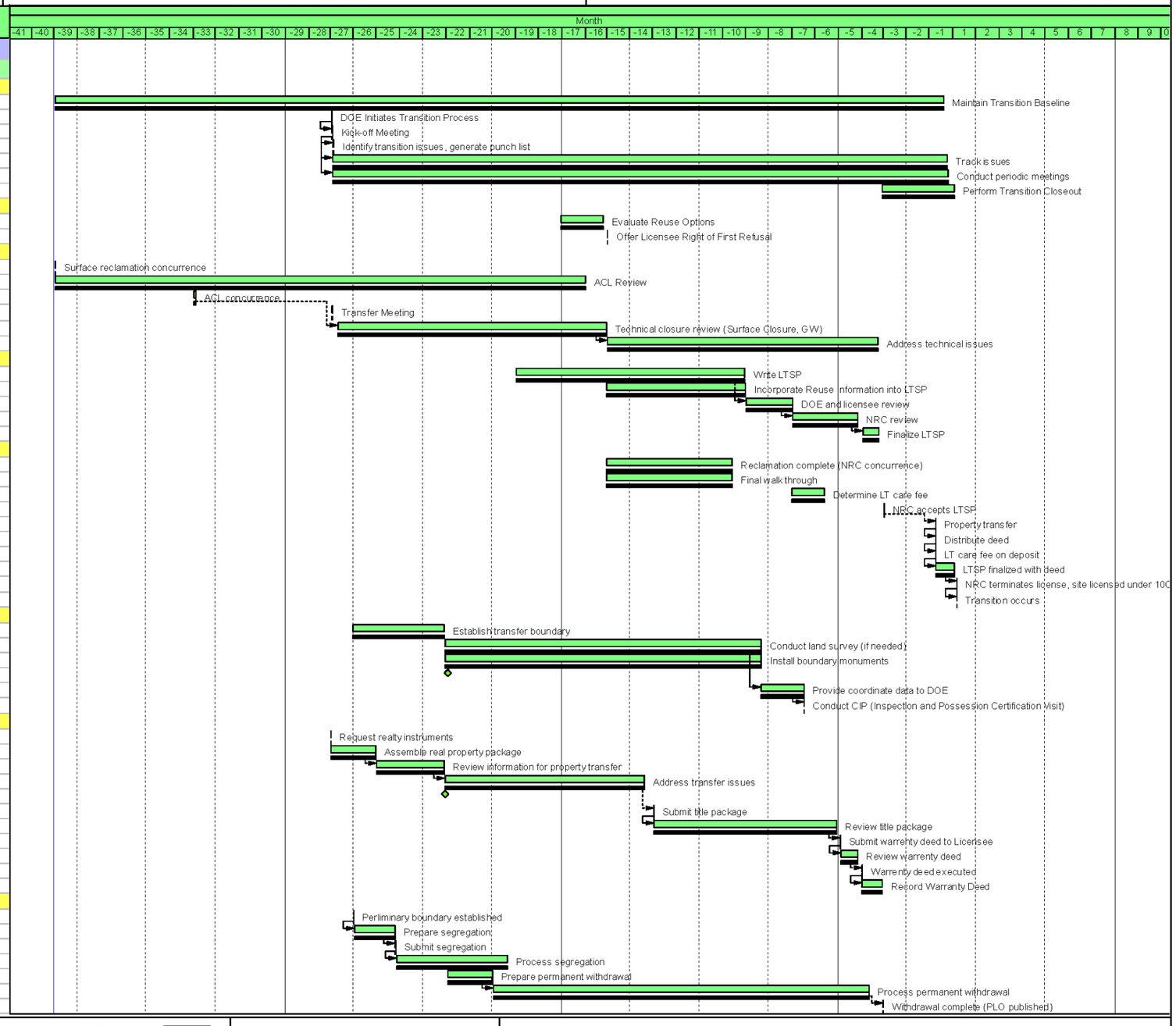
UMTRCA Title II Trns UMTRCA Title II Sites, Conceptual Transfer Process	UMTRCA TII - Transfer	10-Feb-16 12:25

Activity ID	Activity Name	Responsible Party
DOE Schedules DOE Requested Schedules		
UMTRCA Title II Trns UMTRCA Title II Sites, Conceptual Transfer Process		
UMTRCA Title II Trns.1.1	**Task Management**	
PM-1005	Maintain Transition Baseline	DOE
PM-1000	DOE Initiates Transition Process	DOE
PM-1010	Kick-off Meeting	DOE, Regulator, Licensee
PM-1020	Identify transition issues, generate punch list	DOE
PM-1030	Track issues	DOE
PM-1040	Conduct periodic meetings	DOE
PM-1050	Perform Transition Closeout	DOE
UMTRCA Title II Trns.1.2	**Site Reuse**	
PR-1000	Evaluate Reuse Options	DOE, LMS
PR-1010	Offer Licensee Right of First Refusal	DOE
UMTRCA Title II Trns.2.1	**Remedy Implementation**	
RC-1000	Surface reclamation concurrence	NRC
RC-1010	ACL Review	LMS
RC-1020	ACL concurrence	NRC (DOE)
RC-1050	Transfer Meeting	DOE, Licensee, NRC (State)
RC-1030	Technical closure review (Surface Closure, GW)	LMS
RC-1040	Address technical issues	DOE (LMS)
UMTRCA Title II Trns.2.2	**LTSP**	
RC-1060	Write LTSP	LMS
RC-1070	Incorporate Reuse Information into LTSP	LMS, DOE
RC-1080	DOE and licensee review	DOE, Licensee
RC-1090	NRC review	NRC
RC-1100	Finalize LTSP	LMS
UMTRCA Title II Trns.2.3	**License Termination**	
RC-1210	Reclamation complete (NRC concurrence)	NRC
RC-1200	Final walk through	NRC
RC-1220	Determine LT care fee	NRC (DOE)
RC-1230	NRC accepts LTSP	NRC
RC-1240	Property transfer	Licensee, DOE
RC-1250	Distribute deed	Licensee, USACE
RC-1260	LT care fee on deposit	Licensee, NRC
RC-1270	LTSP finalized with deed	DOE
RC-1280	NRC terminates license, site licensed under 10CFR40.28	NRC
RC-1290	Transition occurs	NRC
UMTRCA Title II Trns.3.1	**Boundary**	
ERP-1130	Establish transfer boundary	NRC, Licensee
ERP-1150	Conduct land survey (if needed)	Licensee
ERP-1160	Install boundary monuments	Licensee
ERP-1135	Boundary final	Regulator, DOE
ERP-1170	Provide coordinate data to DOE	Licensee
ERP-1180	Conduct CIP (Inspection and Possession Certification Visit)	DOE RPS
UMTRCA Title II Trns.3.2	**Fee Land Transfer**	
ERP-1240	Request realty instruments	USACE
ERP-1250	Assemble real property package	Licensee
ERP-1260	Review information for property transfer	USACE
ERP-1270	Address transfer issues	DOE, USACE, Licensee
ERP-1265	Boundary final	NRC, Licensee
ERP-1280	Submit title package	Licensee
ERP-1290	Review title package	USACE, DOE
ERP-1300	Submit warrenty deed to Licensee	USACE
ERP-1310	Review warrenty deed	Licensee, DOE
ERP-1320	Warrenty deed executed	Licensee
ERP-1420	Record Warranty Deed	Licensee
UMTRCA Title II Trns.3.3	**Federal Land Transfer**	
ERP-1340	Perliminary boundary established	Regulator, Licensee
ERP-1350	Prepare segregation	DOE
ERP-1360	Submit segregation	DOE
ERP-1370	Process segregation	BLM
ERP-1390	Prepare permanent withdrawal	DOE, BLM
ERP-1400	Process permanent withdrawal	BLM
ERP-1410	Withdrawal complete (PLO published)	BLM



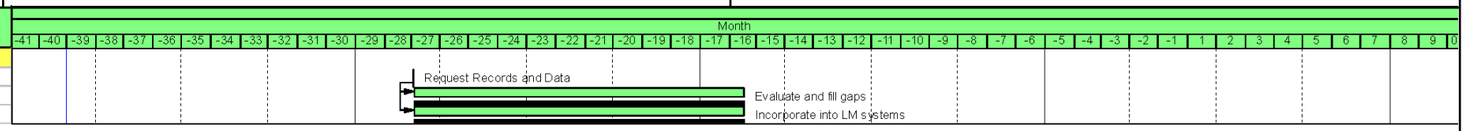
◆ Rating Plan Milestone ◆ Task Order Milestone ● Internal Milestone ◇ Projected Finish — Actual Work — Remaining Work — Actual Level of Effort — Remaining Level of Effort

Page 1 of 2

UMTRCA Title II Trns UMTRCA Title II Sites, Conceptual Transfer

UMTRCA Title II Trns UMTRCA Title II Sites, Conceptual Transfer Process	UMTRCA TII - Transfer	10-Feb-16 12:25

Activity ID	Activity Name	Responsible Party
UMTRCA Title II Trns.4.1	**Acquire Records and Data**	
AR-1000	Request Records and Data	DOE (LMS)
AR-1010	Evaluate and fill gaps	LMS, Licensee
AR-1020	Incorporate into LM systems	LMS



Rating Plan Milestone | Internal Milestone | Actual Work | Actual Level of Effort
Task Order Milestone | Projected Finish | Remaining Work | Remaining Level of Effort

Page 2 of 2

UMTRCA Title II Trns UMTRCA Title II Sites, Conceptual Transfer

Attachment 2

Request for Realty Services

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LMF 430.1c
11/2015, OPI = LM–20
Previous Editions Obsolete

U.S. Department of Energy
Office of Legacy Management

FOR INTERNAL DOE USE ONLY

Request for Realty Services (RRS)

RSS Tracking:

Part 1 – Please refer to the RRS Form instructions before completing this form. You may find the instructions at:
LM Intranet home page → Library → LM Supplemental Directives → Asset Management → PR 430.1

Site name (LM *Site Management Guide* [Blue Book] designation):

Other party(ies) to action or instrument (if known):

Name: _____

Company/organization: _____

Address: _____ _____ _____ _____
Address City State Zip

Phone: _____ **Email:** _____

Brief description of need (please provide sketch or map if appropriate) attach second sheet for additional space:

Fees/cost associated: ☐ Yes ☐ No ☐ Unsure Suggested term of instrument: or ☐ Perpetual

Special conditions:

Please complete the action/instrument by: Accounting charge code number:

National Environmental Policy Act (NEPA) Compliance

Proposed action(s) on this RRS are (choose one item):

☐ **FOR SITES WHERE LM IS FOLLOWING THE CERCLA PROCESS** (typically CERCLA and some FUSRAP sites):
No additional NEPA review is necessary.

☐ **ADMINISTRATIVE:** The actions are strictly administrative and covered by NEPA Checklist LM 09a-11.
Details about LM 09a-11 are in the (LM NEPA homepage).

☐ **OTHER:** The action does not fit in the two options above, further NEPA is necessary.
I have initiated NEPA review. ☐ Yes ☐ No

(The Real Property Management group may start work, but will not complete the real property action until environmental compliance staff complete the NEPA review.)

LM Manager: _____ Date: _____

Informational copy to LM Manager team lead and LM Asset Management team lead.

Part 2 –To be complete by LM/LMS Real Property Management group

DOE Realty Officer: _____ Date: _____

Realty instrument number: _____ Support assigned to: _____

NEPA review completion date: _____ NEPA document reference: _____

NEPA reviewer: _____ Information entered by: _____

RRS complete date: _____

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Attachment 3

Example of a Transition Status Summary: UMTRCA Title II Site Transition Status Annual Update

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UMTRCA Title II Site Transition Status, Updated 9-16-2015 (Changes since last reporting in BLUE)

Following are excerpts from the status sheet. The complete status sheet addresses all Title II sites in the current project baseline.

Gas Hills North, WY, Disposal Site (GHN) – Estimated Transition Date in FY 2018

Leads: DOE: Rich Bush, Site Manager; Tim Vanek, Realty Officer; NRC: Ted Carter, Project Manager; LMS contractor: Steve Hall, Site Lead
Licensee: Pathfinder Mines Corporation, Contacts: Mark Owens, Site Manager, 307-234-5019 (email; mark.owens@areva.com); George Hoffman, Technical Consultant, Hydro-Engineering, 307-266-6597 (email; hydro@alluretech.net)
Alternate Name: Pathfinder (PMC) Lucky Mc

Regulatory and Closure Status	Real Property	LTSP	Groundwater
Issues: 12/2011; concentrations of uranium were noted to be above the ACL in trend well AL-1; NRC delayed acceptance of the LTSP until issue is resolved. As of 11/2012, uranium concentrations back below ACL; stability monitoring ongoing. See "Groundwater" column for NRC's concerns over the groundwater remedy. **Other:** Develop cost estimate for post-closure care.	**Issues:** Federal land withdrawal not complete. BLM reviewing sufficiency of application and DOE's responsibility for NEPA requirements. **Land Status:** Fee and Federal. **Legal Survey:** Complete. **S & W:** Segregation expired 4/14/2010. Withdrawal application in 1/2009. BLM issued a 5-yr exclusive ROW on federal land until withdrawal complete; ROW expires 1/1/2016. **Minerals & O&G:** PMC transferred private and state minerals with the fee land. Federal minerals interests deemed necessary for protectiveness will transfer with the withdrawal; pre-existing mineral rights remain valid. **Access:** Access is public use of Dry Creek Road. Note: Dry Creek road being upgraded to meet Fremont County standards (ongoing, funding issues); DOE provided access for upgrade of site entrance. **USACE:** Fee land transfer complete. **ICs:** Federal ownership upon transfer. No other ICs needed. **FIMS:** OSFs to track upon transition will be determined at the time of the condition assessment. **CIP:** Completed 6/29/2010. **Reuse:** PMC has no grazing agreements in place; Philp Sheep Co holds a grazing lease with BLM. (The site lies within this allotment; the restricted area fence keeps livestock off disposal areas. Seasonal impoundment on site in SE corner that local rancher may use. DOE will maintain it for use. PMC renewed water right and will transfer it to DOE. **Other**: Monitoring wells transfer complete. DOE granted PMC access to site to comply with their NRC specific license requirements until transition is complete.	**Issues:** DOE requested that NRC delay acceptance of the LTSP pending resolution of elevated uranium concentrations above the ACL. NRC delayed review of the LTSP and notified the licensee of the issues. Upon resolution of NRC's groundwater concerns by the licensee, DOE will revise the draft LTSP and submit it to NRC for technical review. LTSP revisions will include any modifications to the long-term monitoring program determined necessary as a result of resolution of groundwater concerns and NRC's LTSC guidance. **Other:**	**Issues:** Concentrations of uranium in trend well AL-1 above the ACL; sulfate, chloride, and TDS also elevated. NRC concurs with DOE's concern and requests a plan from the licensee to address the elevated concentrations. PMC plans additional monitoring. As of November 2012, uranium concentrations have remained below the ACL; sulfate, chloride, and TDS concentrations also subsided, stability monitoring ongoing. 11/2012: Uranium concentrations in well AL-1 (1.64 mg/L) below the ACL (1.70 mg/L); concentrations of sulfate, chloride, and TDS also lower. 5/8/2013; Licensee submits letter to NRC providing possible explanations for the increased uranium concentrations and provides the requested path forward (i.e., continued monitoring). Stability monitoring ongoing. **Other:** PMC abandoned offsite wells AL-8 & AL-9 following NRC approval and license amendment (8/2008). WDEQ raised concern over lack of monitoring locations in Reid Draw downgradient of disposal cells.

UMTRCA Title II Site Transition Status, Updated 9-16-2015 (Changes since last reporting in BLUE)

Panna Maria, TX, Disposal Site (PNM) – Estimated Transition Date in FY 2018

Leads: DOE: Art Kleinrath, Site Manager; Tim Vanek, Realty Officer; NRC: TBD, TCEQ: Monica Sullivan, Acting Uranium Section Manager; LMS contractor: Mike Widdop, Site Lead
Licensee: Rio Grande Resources (RGR, a subsidiary of General Atomics), Contacts: Kevin Raabe, 830-780-3911 x238; Brenda Hughes, 830-780-3911 x230; Michael Gard, Hydrologist, 505-237-8440
Alternate Name: Chevron, Rio Grande Resources

Regulatory and Closure Status	Real Property	LTSP	Groundwater
Issues: Groundwater remedy is being evaluated by TCEQ and licensee. Surface reclamation complete. 1/20/2015: Licensee and TCEQ report that site groundwater remedy is being revised to reflect elevated naturally occurring constituent concentrations in background groundwater. **Other:** Proposed resin processing plant for ISR operations adjacent to DOE property received regulatory approval in December 2012. Gas drilling in area has made purchase of nearby land unlikely. Develop cost estimate for post-closure care.	**Issues:** GW modeling and risk evaluation may change transfer boundary and need for offsite restrictions. Oil and gas activity in the area due to Weatherford Shale fracking. **Land Ownership:** Fee. **Legal Survey:** Request when transition is scheduled. **Minerals:** Ownership of subsurface estate unknown; oil and gas leased to third party (see below). **Access:** From pubic ROW. **USACE:** Request support when transition process begins. **ICs:** Federal ownership. Licensee secured restriction from entering site within 4,000 feet of the surface to prevent damage to cell, other surface features, or uppermost aquifer from drilling or hydraulic fracturing. **CIP:** Schedule when transfer is imminent. **FIMS:** OSFs to be tracked will be determined at the time of the transition condition assessment. **Reuse:** Anticipate that hay production will continue to maintain turf on cell cover. **Other:**	**Issues: None** Drafted, need to revise when transition begins. **Other:**	**Issues:** Licensee investigated local geology, water quality, and mineralization upgradient of the disposal site. TCEQ asked RGR to evaluate background groundwater chemistry across the region where shallow groundwater is in contact with uranium mineralization. Remedy may be no further action based on background water quality. 4/2014: Licensee submitted background groundwater quality determination to TCEQ. **Other:** DOE sent letter in 2012 to RGR allowing RGR access and use of deep (4,500 ft) Carrizo well as supply for new resin plant.

Uravan, CO, Disposal Site (URA) – Estimated Transition Date in FY 2018

Leads: DOE: Art Kleinrath, Site Manager; Bud Sokolovish, Realty Officer; NRC: Janine Katanic, Project Manager; EPA: Frances Costanzi, Remedial Project Manager; CDPHE: TBD, Project Manager; LMS contractor: Dave Traub, Site Lead
Licensee: Umetco (a subsidiary of Dow Chemical), Contacts: Tom Gieck, 970-256-8889 (email; gieckte@dow.com); Jason Smith; 970-256-8852 (email; jcsmith@dow.com)
Alternate Name: Uravan

Regulatory and Closure Status	Real Property	LTSP	Groundwater
Issues: The decision of ownership in the Club Ranch Ponds area is under discussion DOE is working with NRC to determine final ownership. DOE is waiting on results of EPA/Umetco interaction. Site on NPL and subject to dual regulation. Alternate Soil Standards were approved by NRC Commissioners on May 18, 2012. The EPA ROD was due October 1, 2013. Information from the licensee indicates that the ROD will be delayed for an uncertain period. Discussion with Umetco staff in late 2014 indicates EPA and Umetco legal staffs are working on Consent Order. Neither EPA nor CDPHE Uravan websites provide any information on current status of site (March 2015). **Other:** Umetco allowed LMS botanists to perform a soil and plant survey in August 2013. The survey resulted in a recommendation to revegetate about 80 acres of the Club Ranch Ponds area. As of this reporting, DOE has not met with Umetco to discuss the survey and recommendations (March 2015). Clearly defining DOE's UMTRCA responsibilities and liability versus Licensee's CERCLA responsibilities and future liabilities. Develop cost estimate for post-closure care.	**Issues:** Final site boundary has not been defined, so real property work not started. **Land Ownership:** Fee and federal. Details of transfer boundary nearing completion. **Legal Survey:** Umetco completed site survey. **S & W:** Will be submitted upon determination of transfer boundary. **Minerals:** Umetco will transfer their fee interests. Federal mineral interests required for protectiveness will be transferred with the withdrawal. **Access:** From public highway and county roads. **USACE:** DOE may direct this work to be conducted from the Omaha Office and will determine contact when survey is complete and transfer date is more certain. **ICs:** Federal ownership and DOE proposes ICs for Club Ranch Ponds area if it does not end up in DOE ownership. **FIMS:** OSFs to track upon transition will be determined at the time of the condition assessment. **CIP:** Schedule when transfer is imminent. **Reuse:** Water rights will be useful if DOE has the Club Ranch Ponds area. **Other:** New bridge for EE22 was completed in fall 2014.	**Issues:** Determine the need to eradicate native deep-rooted vegetation on the cell. Draft LTSP prepared in 2007 and has not been updated to reflect final site conditions. LTSP will be revised when transition begins. **Other:**	**Issues:** Groundwater is contaminated by TDS in the Club Ranch Ponds and is basis of the decision to require DOE to own the land over the plume. ACLs were approved by CDPHE in 2003. **Other:**

Attachment 4

Site Transition Framework

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Site Transition Framework for Long-Term Surveillance and Maintenance

This Site Transition Framework (STF) provides a framework for all U.S. Department of Energy (DOE) facilities and sites where DOE may have anticipated long-term surveillance and maintenance (LTS&M) responsibilities. It is a tool to help facilitate a smooth transition from remediation to LTS&M, providing a systematic process for affected parties to utilize in analyzing the baseline, and to understand and manage actions from completion of the Environmental Management (EM) mission through site transition into LTS&M.

The STF is not intended to provide an exhaustive list of the specific requirements and information. Sites will have unique considerations that may not be adequately addressed by this tool, and it is anticipated that a team consisting of the transferring and receiving organizations will use judgment in utilizing these requirements and augmenting them with other DOE guidance. However, the STF should be followed to the extent possible at each site and adapted to accommodate unique site-specific requirements, needs, and documents.

Ideally, this STF should be used as early in the remediation process as possible. Subsequent applications of the STF to the site should be conducted periodically and used to verify that all appropriate steps have been or will be taken to close out the site and that actions by both organization to transfer the site to LTS&M are identified. The requirements are provided in the following sections and attachments of this document:

- Section I. Authorities and Accountabilities Are Assigned and Documented
- Section II. Site Conditions Are Accurately and Comprehensively Documented
- Section III. Engineered Controls, Operation and Maintenance Requirements, and Emergency/Contingency Planning Are Documented
- Section IV. Institutional Controls, Real and Personal Property, and Enforcement Authorities Are Identified
- Section V. Regulatory Requirements and Authorities Are Identified
- Section VI. Long-Term Surveillance and Maintenance Budget, Funding, and Personnel Requirements Are Identified
- Section VII. Information and Records Management Requirements Are Satisfied
- Section VIII. Public Education, Outreach, Information, and Notice Requirements Are Documented and Satisfied
- Section IX. Natural, Cultural, and Historical Resource Management Requirements Are Satisfied
- Section X. Business Closure Functions, Pension and Benefits, Contract Closeout or Transfer, and Other Administrative Requirements Are Satisfied
- Attachment 1, Real Property Requirements
- Attachment 2, Post-Closure Benefit Information and Data Needs

I. Authorities and Accountabilities Are Assigned and Documented

All interested parties' assignments of accountabilities and authorities for LTS&M have been identified and documented.

A. All documents allocating the roles and responsibilities of interested parties have been approved and signed (e.g., Memorandum of Agreement, Memorandum of Understanding, Interagency Agreement, Cooperative Agreement).

B. Each federal or non-federal entity that will be responsible for LTS&M activities listed in Section I-A has been identified. Funding sources for each activity have been identified and documented in Section VI.

C. Appropriate governmental requirements, policies, and procedures for managing resources have been incorporated into the LTS&M Plan and agreements.

D. The legal authority under which LTS&M will be conducted has been identified and documented or a "reservation of rights" has been indicated.

E. Section IV presents a discussion of authorities related to institutional controls.

II. Site Conditions Are Accurately and Comprehensively Documented

All documentation identifying site historical uses characterization, and remedial action, including the Preliminary and Final Closeout Reports, has been completed and made available to the public. Where available, the information identified in this section should be of survey quality and have Geographical Information Systems (GIS) references.

A. The site at the time of closure, including all remedies and remaining hazards, has been described. Examples include, but are not limited to, the following components:

   1. Physical features of the site, including, site topography, geology, hydrogeology, geomorphology, seismicity, site and area boundaries, and other features relevant to the long-term performance of the site.
   2. Locations of active, inactive, and decommissioned buildings, structures, and surface and subsurface infrastructure (e.g., utilities).
   3. Locations of residual hazards and associated engineered and institutional control systems.
   4. Locations of groundwater wells, wastewater outfalls, and air quality monitoring stations. Information has been depicted on site maps.
   5. For those sites undergoing closure, locations of off-site buildings and structures, important ecological resources, and associated potential receptors in the vicinity of the site.
   6. Characteristics of the remaining contaminants (e.g., radioisotope, activity, and physical and chemical form).
   7. Descriptions of the initial risk at the site and the risk remaining at the site following remediation. This information will be used to provide a reference baseline.
   8. The existence of and basis for decisions on cleanup levels for the end state, such as a "No Further Action," should be indicated.

B. For those sites undergoing closure, a conceptual site model for LTS&M has been completed (if deemed applicable) that shows the relationships between existing residual hazards, environmental transport mechanisms, exposure pathways, and human/ ecological receptors.

C. All remedial action(s) and associated documentation have been completed and approved by regulators.

D. Results of any Natural Resource Damage Assessment claims, where applicable, with associated documentation have been identified. This assessment should discuss the Department's potential environmental liability at the site.

III. Engineered Controls, Operation and Maintenance Requirements, and Emergency/Contingency Planning Are Documented

A. Engineered controls have been identified and documented. The information should include, but not be limited to, the following elements:

1. Design and construction drawings, specifications, and completion report.
2. Site physical and geotechnical data.
3. Locations of engineered controls accurately identified and depicted on site maps.
4. Identification of ongoing remediation and related waste management activities.
5. Performance history assessments indicating successful operation.

B. A life-cycle cost estimate, including basis and assumptions. The life-cycle cost estimate should be based on best available data but should also include a reasonable and prudent amount for future contingencies, recognizing that in most cases LTS&M activities may be ongoing until such a time that no hazards remain to human health and the environment. The results of the life-cycle cost should be documented in Section VI-B.

C. A master schedule of ongoing activities has been made available.

D. The risk-based end state, including exit criteria outlining if and/or when engineered controls will no longer be necessary, should be identified along with the supporting information. If exit criteria will be implemented while hazards to human health and the environment remain, a Probabilistic Risk Assessment over several half-lives should be provided to justify the exit strategy and the discontinuance of the engineered controls.

E. Operation and maintenance (O&M) activities have been documented, funding is in place, and a party has been selected to perform the necessary activities.

1. Surveillance and monitoring requirements have been documented (e.g., scope frequency, reporting, process descriptions, and analytical parameters and methods). This document should allow for optimization that is consistent with the selected remedy.
2. The cost, including basis and assumptions, of operations, maintenance, and surveillance activities has been estimated, documented, and revised periodically as experience dictates. The request for funding should be in accordance with applicable budget appropriations procedures.
3. An agreement and/or contract is in place for performance of all O&M activities during LTS&M if an outside party will be performing these activities.

III. Engineered Controls, Operation and Maintenance Requirements, and Emergency/Contingency Planning Are Documented (continued)

F. Emergency/contingency planning and the authority and responsibilities to implement have been identified.

1. Uncertainties associated with residual hazards, fate-and-transport mechanisms, exposure pathways, and the effectiveness of LTS&M activities have been identified.
2. Scenarios related to each uncertainty have been identified (e.g., failure scenarios).
3. Roles, responsibilities, and procedures to respond to each scenario have been established.
4. The conceptual site model developed in support of the remedial action or closure decision should be routinely reviewed, updated, and re-evaluated based on new technical information and on monitoring data collected during stewardship of the site.
5. Emergency and catastrophic planning for events such as fires, floods, etc., shall be documented.

IV. Institutional Controls, Real and Personal Property, and Enforcement Authorities Are Identified

A. Land use/institutional controls have been identified, approved by the regulator(s) (if applicable) and implemented. All institutional control components of each implemented remedy are described (e.g., future land-use assumptions upon which each implemented remedy is based, associated land-use restrictions). If engineered barriers will be relied upon as part of the remedy requiring institutional controls, assumptions regarding the longevity and performance of these barriers should be identified.

1. On-site and off-site land uses for each area (property) and its associated land-use assumptions have been identified.
2. Procedures for managing, assessing potential changes in, and enforcing on-site and off-site (as appropriate) land uses have been documented and are being conducted.
3. Institutional controls established as part of an implemented remedy have been identified, and a process is in place to monitor and document these institutional controls.
4. Roles and responsibilities that have been outlined for responding to requests to change existing land uses are consistent with the land use assumed during implementation of the selected remedy.
5. Procedures have been put in place for periodic review of land uses and institutional controls to ensure that they are being maintained and remain protective. Performance history indicating successful operation has been documented.
6. Procedures for management and periodic reassessment of institutional control restrictions are in place.
7. Off-site easements implemented to ensure the protectiveness of the remedy have been documented, and a process is in place to enforce/maintain these easements.
8. Exit criteria outlining when engineered controls/institutional controls will no longer be necessary have been documented, if not previously documented, in the Record of Decision (ROD) or other appropriate document.

B. Property records (as required by applicable regulations and/or guidance) are complete. Examples of property records follow; Attachment 1 provides a more complete list of property records.

1. The site's real estate history has been documented, including identification of former property owners, deed restrictions, or other land-use restrictions.
2. Site boundaries and site markers are easily identified and have been documented.
3. On-site and off-site easements, rights-of-way, and other property access rights have been established and documented. Preferably, this information should be depicted on site maps.
4. Water, mineral, and other natural resource rights have been identified.
5. Tribal treaty rights and other U.S. Government obligations have been identified.
6. Areas where LTS&M activities will be conducted have been documented in the property records.

IV. Institutional Controls, Real and Personal Property, and Enforcement Authorities Are Identified (continued)

C. Personal Property Transfer Requirements

The personal property transfers are completed in accordance with Title 41 *Code of Federal Regulations* (CFR) Part 101, Federal Management Regulations, and DOE Property Management Regulations (PMR).

V. Regulatory Requirements and Authorities Are Identified

Regulatory requirements regarding residual contamination have been identified. Pertinent regulatory documents are maintained and available to the public (e.g., RODS, Resource Conservation and Recovery Act (RCRA) permits and Corrective Action Decisions, Consent Orders, Interagency Agreements, and Federal Facility Agreements).

A. All regulatory decision documents and associated site characterizations have been identified and are either complete or scheduled for completion (e.g., all remedial action activities regarding the soil have been completed, but the impacted groundwater is in the process of being resolved) and are maintained in accordance with regulatory requirements.

B. The implemented remedy and associated LTS&M activities are verified to be in compliance with all regulatory requirements [e.g., appropriate agreements have been entered into with appropriate regulator(s)].

C. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Five-Year Review or other review results are available. Future periodic reviews (not to exceed 5 years), including supplemental analysis of site-wide Environmental Impact Statements (if applicable and/or required), should be planned and consistent with existing guidance.

D. The U S. Environmental Protection Agency (EPA) National Priority List (NPL) status and/or RCRA permit status or state requirements and the basis for these requirements have been clearly indicated (e.g., delisting, partial delisting, and non-NPL).

E. U.S. Nuclear Regulatory Commission (NRC) license status has been established. This status information should identify the license holder and the development of license transfer plans.

F. Locations of documents have been identified, and the documents are accessible. A process should be in place to ensure that the documents are maintained and kept current (e.g., new technology updates for records management).

VI. Long-Term Surveillance and Maintenance Budget, Funding, and Personnel Requirements Are Identified

Sites should be consistent with and follow their prescribed guidance in determining budget, funding, and personnel requirements. Some of the elements in this section may not apply.

A. A technical baseline document for LTS&M programs and activities at the site has been developed. The LTS&M baseline includes activities to be conducted by the receiving organization.

B. Funding (consistent with technical baseline) and supported by cost-estimates (Section VI).

1. Any funds for LTS&M have been identified and are available.
2. Estimates for the annual funding requirements for LTS&M activities, associated oversight, and information management requirements have been derived and have been included in the Annual Budget Request to Congress.
3. Funding assurances have been made based on those estimates.
4. Mechanisms to transfer funds required for LTS&M have been established.
5. Funding mechanisms for LTS&M activities and regulatory oversight activities conducted by other federal and non-federal entities have been established (e.g., documentation of financial assurance agreements for long-term monitoring and surveillance funding).
6. Estimates required for financial assurance payments have been determined.
7. Authority has been granted to the steward to use, or have access to, funds related to LTS&M.

C. Personnel requirements have been identified (for activities not previously addressed within this set of criteria).

1. All personnel functions and qualifications necessary for the technical implementation and administration of LTS&M activities have been identified.
2. A determination for the need of other on-site personnel has been made and the specific duties that may be required have been identified.
3. A closeout plan for the disposition of excess federal full-time equivalents has been developed.

D. A business closeout process has been developed (see Section X).

VII. Information and Records Management Requirements Are Satisfied

Records and information for LTS&M turnover or retention plans are reflected in post-closure or disposition plans.

A. Transfer of information and records.

1. Agreements are in place that identify the disposition of records transfer to the site custodian and records that transfer to other organizations (i.e., contract closeout records, ongoing litigation records and FOIA/Privacy Act requests, transuranic waste-related records, classified information).
2. Information and records needed for LTS&M, property management, contractor personnel benefits other than pensions, worker compensation, and Energy Employees Occupational Illness Compensation Program Act (EEOICPA) have been identified.
3. Practices and procedures for the transition of information systems and records have been established. Guidance is provided in the document *Legacy Management Information and Records Management Transition Guidance (March 2004).*
4. The guidance and operations information for information systems transferring to the site custodian, including metadata, have been identified and transferred along with the information systems.
5. A Site Information and Records Transition Plan has been developed and approved that establishes a framework to address site-specific records and information requirements, including storage locations, special handling needs, geospatial data, and access and retrieval requirements.
6. The location(s) for storage and maintenance of site records and information systems has been identified and approved.
7. A records tracking system has been implemented, and standards for data formats, finding aids, and indices have been provided to the transfer site.
8. Information from the transfer site's records tracking systems has been migrated to the tracking system, along with locator guides and indices.
9. Records and record locations specified in agreements (Section V) are identified along with points of contact.

B. Information and records management planning has been performed and is acceptable to the stakeholders, as required under regulatory requirements for stakeholder involvement and public availability.

1. Systems and procedures for the archival of LTS&M information in one or more on-site or off-site repositories have been developed.
2. Retention schedules that are appropriate for the management of records for LTS&M and for continuity of benefits, worker compensation, and EEOICPA claims have been developed.
3. Systems and procedures to establish and facilitate public access to and retrieval of records and information critical to LTS&M are in place. Examples could include, but are not limited to, Internet access, local library, and on-site information center (e.g., Interpretive Center, museum).

VII. Information and Records Management Requirements Are Satisfied (continued)

B. Information and records management planning has been performed and is acceptable to the stakeholders, as required under regulatory requirements for stakeholder involvement and public availability (continued).

4. The National Archives and Records Administration (NARA) has been engaged, through the DOE Office of Chief Information Officer, to approve any transfer of records past their retention dates or the loan of current records to organizations outside of DOE.
5. The DOE Librarian and DOE Historian should be consulted regarding the transfer of non-record materials, such as library materials and other items that may have historic value, before agreements are made regarding their transfer to non-DOE entities.
6. Classes of LTS&M information users and their access requirements have been identified and solutions have been implemented.
7. Information in DOE-approved information systems, such as those identified in DOE Order 430.1B, *Real Property Asset Management*, required for LTS&M has been identified.

VIII. Public Education, Outreach, Information, and Notice Requirements Are Documented and Satisfied

Any community involvement and associated Community Relations Plans should be governed by existing participation standards and systems.

A. List of site stakeholders with associated address information has been developed and a process is in place for updating this list.

B. Annual or more frequent updates of the Administrative Record and on-site information repository are available to interested parties. Community involvement tools have been developed (e.g., fact sheets, newsletters, email notifications, public meetings, etc.).

C. Costs associated with public involvement have been estimated (e.g., oversight committees, meeting locations). Funds sufficient for public involvement should be included in the funding requests.

IX. Natural, Cultural, and Historical Resource Management Requirements Are Satisfied

A. A discrete system or process is in place to protect information about sensitive and natural resources from inappropriate or unauthorized use or access.

B. Biological resources, threatened and endangered species, archaeological and cultural resources, Native American treaty rights, and/or other natural and cultural resources requirements have been identified and satisfied.

C. Precise locations and characteristics of natural and cultural resources that require LTS&M have been identified. A management system is in place and operating successfully.

X. Business Closure Functions, Pension and Benefits, Contract Closeout or Transfer, and Other Administrative Requirements Are Satisfied

Actions required by the completing organization and the receiving organizations related to business closeout functions are identified and reflected in requirements, policies and procedures (Section I-C), schedules and cost estimates (Sections III-B and III-C), and budget (Section VI)

A. Responsibilities have been determined for the administration and funding of

1. Retiree benefits and pension fund(s)
2. Workforce transition services (e.g., outplacement assistance)
3. National Defense Authorization Act for Fiscal Year 1993, Section 3161 Tuition Reimbursement Program and Relocation and Entrepreneurial Resource Program
4. Worker compensation claims
5. EEOICPA claims

B. Current contractor pensions and benefits needs are identified and planned (see Attachment 2 for more details):

1. Information about current pensions and benefit plans has been obtained.
2. Post-closure benefits administrator and providers have been identified and appointed.
3. Employment dates, salary, and security clearances have been verified.
4. Personnel-related databases (including manual systems) and records responsibility have been identified:
   a. Employment history and personnel files
   b. Historical radiological dose records
   c. Medical records
   d. Retiree pension and benefit records
   e. Security clearance history files
   f. Training records

C. Status of pending litigation and liabilities identified (Generally, these actions should be completed by the transferring organization.):

1. Pollution liability policy
2. Auto liability policy
3. General liability policy
4. Fiduciary/crime/medical malpractice liability policy
5. Government rating plan for workers compensation
6. Non-government rating plan workers compensation claims
7. Equal Employment Opportunity (EEO) and discrimination cases
8. Unresolved hourly employee claims
9. Beryllium liability claims
10. State or community litigation or claims

X. Business Closure Functions, Pension and Benefits, Contract Closeout or Transfer, and Other Administrative Requirements Are Satisfied (continued)

C. Status of pending litigation and liabilities identified (generally, these actions should be completed by the transferring organization) (continued)

11. Pending citizen action suits
12. Department of Labor, Administrative Review Board cases, and/or Federal court litigation relating to Labor Standards (e.g., Service Contract Act, Davis-Bacon Act)

D. Contract termination actions (These actions will normally be completed by the transferring organization unless contracts are required for LTS&M.):

1. Contract closeout actions for closure of restoration contracts shall be identified.
2. Contracts and financial agreements required for LTS&M identified (see Section I-B).

E. Requirements of DOE orders satisfied.

1. Facility Authorization Basis terminated
2. Price Anderson Authorities oversight
3. Reporting to International Atomic Energy Association (IAEA) terminated
4. Disposition of personal property items

Attachment 1, Real Property Requirements

I. Real Property Information Requirements

All real property information requirements must be identified and documentation must be obtained prior to the transfer of any site to the Office of Legacy Management (LM). Real property assets are defined as any interest in land, together with the improvements, facilities, structures, and fixtures located thereon, including prefabricated movable structures and appurtenances thereto, under the control of DOE. Real property assets are further defined in the *Federal Management Regulations,* Sections 101-476.103-12. Consider the following elements, as applicable:

- Determine what interests will remain at closure both on site and off site, including land, easements, minerals, water rights, well permits, licenses, and permits.
- Determine any other in grants or out grants proposed for transfer to LM.
- Determine future land use for property.
- Obtain as-built drawings for any remaining improvements and utilities.
- Obtain existing maintenance/operations plans and procedures.
- Perform a physical inspection of facility.
- Complete information on any ongoing acquisition/disposal efforts.

Where applicable, the following real property information requirements must be met prior to transfer of a property to LM.

II. General Information Needed

All the following information should be documented, stored, and available for LM use:

- Identification of authority used to acquire the interests
- Identification of all jurisdictions that exist
- Identification of proprietary, exclusive, or other federal interests, including off-site interests such as easements, licenses, and permits
- Identification of each grantor
- Indemnification granted

III. Budget and Accounting Data

- The budget authority for any area, such as leases, operation and maintenance of improvements, and infrastructures, that will be transferred to LM.
- PILT money
- Integrated facility infrastructure documentation
- MARS record
- Quarterly maintenance

Attachment 1, Real Property Requirements (continued)

IV. Land

All the following information should be documented, stored, and available for LM use:

- Identification of the type of title and the holder of the title (the agency or the United States).
- Request U.S. Army Corps of Engineers or other agency real estate records.
- Identification of where original real estate records are located and whether the real estate record is complete, including acquisition instrument and deeds, withdrawal records and *Federal Register* Notices, title plats, legal descriptions and plats, surveys, and maps
- Identification of outstanding interests, such as out leases or easements, deed restrictions, or non-federal controls or other burdens on the property (such as highway and utility rights-of-way).
- Identification, if applicable, of any federally funded off-site improvements (e.g., roads, traffic lights).
- All unneeded real property in grants and out grants must be terminated prior to transfer.
- Identification of any RCRA/CERCLA transfer restrictions.
- Identification of local government with jurisdiction for the property.
- Realty instruments have been recorded and any zoning or tax issues have been identified.
- Real Property Asset Management (RPAM)-required, 10-Year Plan has been completed.
- Identification of existing land uses, zoning, and proposed land use if available.
- Identification of any subsurface (mineral, oil, gas) rights.
- Identification of any water rights and well permits.
- PILT requests granted or pending.
- FIMS is complete and up to date.

V. Maps, Plats, and Exhibits

All the following information should be documented, stored, and available for LM use:

- Official land surveys, monumentation records, and cadastral surveys records stored and available for use.
- Official site maps, mineral rights maps, water rights maps, well permit maps, easement maps and legal descriptions, oil and gas lease maps, and tribal trust land properly geo-referenced in accordance with state or latitude/longitude coordinates and standards.
- Master title plats, title plats, and county title plats.
- Legal descriptions and recorded data.
- Existing and abandoned utility improvement easements maps.
- Locations of monuments.

Attachment 1, Real Property Requirements (continued)

VI. Mineral Rights

All the following information should be documented, stored, and available for LM use:

- Identification of mineral interests owned by the United States
- Locations of minerals severed from the surface estate
- Locations of any permitted mining operations

VII. Water Rights

All the following information should be documented, stored, and available for LM use:

- Identification of water rights owned by the United States.
- Location of water rights retained by the former owner of the property.
- Location of outstanding water conveyances on the property and information on the easement holders; provide copies of the easements.
- Description of surface water rights.
- Description of the surface water impoundments.

VIII. Well Permits

All the following information should be documented, stored, and available for LM use:

- Identification of well permits that exist for the United States.
- Identification of any state abandonment requirements.
- Identification of the state regulatory authority and point of contact.
- Identification of any off-site permits and access agreements; provide copies of the records and instruments to LM
- Data for FIMS are complete and up to date.

IX. Leasehold Interests:

All the following information should be documented, stored, and available for LM use:

- Identification of any existing leases and expected expiration dates; provide copies of the contracts to LM.
- Identification of any granted leaseholds to others (out grants).
- Data for FIMS are complete and up to date.

Attachment 1, Real Property Requirements (continued)

X. Other Real Property Interests

All the following information should be documented, stored, and available for LM use:

- Identification of any real estate institutional controls, such as deed restrictions, covenants, zoning agreements, or easements.
- Identification of any restrictions on the use of airspace over the site and point of contact if there are any restrictions
- Subordinated rights of others

XI. Infrastructure

All the following information should be documented, stored, and available for LM use:

- Identification of buildings or other structures that will remain.
- Identification of any leasehold interests associated with any buildings and other structures that will remain; if so, provide addresses of the leaseholders and copies of the contract.
- Identification of the costs, restoration requirements, cancellation or termination costs, and time frame for notices.
- Identification of any dam safety requirements or required annual inspections and reports:
  - Power generation systems
  - Treatment systems
  - Fencing
  - Disposal facilities
  - Electrical distribution stations
  - Extraction wells
  - Injection systems
  - Surface water structures (e.g., drainage channels, streams, dams, ponds flow controls, flow diversions)
- Identification of existing utilities that will remain.
- Identification of types and names of service providers (e.g., transmission or service, electric, natural gas, domestic water, sewage).
- FIMS requirements must be met, and applicable fields must be populated, complete, and up to date
- Identification of the FIMS administrator for the property
- Identification of security requirements that will remain or will be needed with the transition.
- Identification of maintenance management system used.

Attachment 2, Post-Closure Benefit Information and Data Needs

I. Pension Plans

Provide a list of current defined benefit plans. The following information is needed for each plan.

A. Financial/Custodian Data

1. Statement of assets
2. Reconciliation of market value of assets from period to period
3. List of benefits paid

B. Actuarial Information

1. Complete table of disability rates
2. Complete table of withdrawal rates
3. Actuarial valuation for each plan
4. Any assumption studies that have been performed in the past 5 years
5. Any other assumptions not explicitly detailed in the actuarial reports
6. The census data used for the actuarial valuations for the most recent plan year

C. Employer Plan Documents

1. With all updated amendments and Summary Plan descriptions for all plans
2. Most recent 5500 filings

II. Health and Welfare Benefit Plans

The following information is needed for each health and welfare plan (such as medical, dental, life insurance, vision and prescription drug) that is currently extended to or continues post-employment and is likely to continue for retirees and/or for other selected former employees post-closure (if different). The types of financial data required will vary based on the plan's funding arrangement, as outlined in the following subsections:

A. Financial Data

1. Fully Insured Plans
   a. Current rates
   b. Rates for the prior 2 plan years
   c. Copies of renewal letters
   d. Claims experience and participation history for the past 2 years (separated by plan)
   e. Premium history for the past 2 years

Attachment 2, Post-Closure Benefit Information and Data Need (continued)

II. Health and Welfare Benefit Plans (continued)

A. Financial Data (continued)

2. Self-Funded Plans
   a. Premium equivalent rates for the past 2 years
   b. Administrative rates for the past 2 years
   c. Reinsurance rates for the past t2 years
   d. Monthly participation history for the past 2 years
   e. Monthly incurred/paid claim data for the past 48 months (separated by plan, and by actives and retirees)

3. All Plans Regardless of Funding
   a. Employee and retiree contribution rates for the past 2 years
   b. Claim utilization reports for the past 2 years

B. Insurance Company Documents

1. Insurance contracts
2. Certificates of Insurance
3. Reinsurance contracts for self-funded plans

C. Employer Plan Documents(including Section 125 document, if applicable, and retiree health care document)

D. Employee Communication Materials

1. Summary Plan Descriptions
2. New hire orientation
3. New hire benefit enrollment (both health and welfare and retirement benefits)
4. Annual benefit enrollment materials and employee contributions
5. Employee newsletters and other regular communication
6. Retiree communications

E. Pension and Health and Welfare Benefit Plans Census Data Elements

1. Status [active, disabled, Consolidated Omnibus Budget Reconciliation Act (COBRA), terminated vested, retired]
2. Employee identification
3. Name
4. Date of birth
5. Sex
6. Date of hire
7. Zip code
8. Salary (base pay only)

Attachment 2, Post-Closure Benefit Information and Data Need (continued)

II. Health and Welfare Benefit Plans (continued)

E. Pension and Health and Welfare Benefit Plans Census Data Elements (continued)

9. Pension compensation [a description of the salary being provided (e.g., W-2 wages plus 401(k) deferrals)]
10. Prior plan year's hours
11. Job description (or title)
12. Employee classification (salaried or hourly)
13. Other employee classification (if applicable)
14. Prior pension plan accrued benefits (if applicable)
15. January 1, 1976, accrued benefit
16. Any supplemental benefits being paid (if applicable)
17. Date of disability, retirement, or COBRA qualifying event
18. Date of pension benefit commencement (if applicable)
19. Monthly pension benefit (if in pay status)
20. Form of benefit (if in pay status)
21. Beneficiary date of birth for pension (if applicable)
22. Medical plan election
23. Medical coverage tier (individual, family, etc.)
24. Dental coverage tier (individual, family, etc.)
25. Vision coverage tier (individual, family, etc.)
26. Amount of basic life insurance

In addition to the documents and data LM needs to collect, LM needs to develop an understanding about what is expected to happen to the plans and the workforce through site closure and beyond. The following questions include some of the questions LM has regarding pension and health and welfare benefit plans:

- Does the site anticipate changing the asset allocation in any of the pension plans from now until closure?
- What baseline date is the site using for site closure? What is the possibility that the actual site closure will be sooner or later?
- Does the site expect to hire any new employees (additional or replacement) from now until closure?
- What turnover pattern does the site expect for the site employees from now until closure (please provide separately for salaried and hourly employees)?
- What salary increases does the site expect from now until closure?
- Does the site expect to implement early retirement incentive programs or any changes to the site pension or health and welfare plans from now until closure ?
- Does the site expect any cost of living adjustments for retirees in the pension plans from now until closure?
- When do terminated vested participants generally start collecting benefits?

Attachment 5

Title II Transition Checklist

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Title II Transition Checklist

April 2016

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Contents

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Introduction and Site Information

This Title II Transition Checklist is a subset of the checklist that was developed for the U.S. Department of Energy (DOE) Office of Legacy Management (LM) as part of the process of transferring site responsibilities from the Office of Environmental Management and other programs into LM for long-term surveillance and maintenance (LTS&M). It was recognized that some items on the larger checklist will never apply to Uranium Mill Tailings Radiation Control Act (UMTRCA) Title II site and other non-EM site transitions and those items have been removed from this checklist. Subsequently, additional information was added and the checklist was reorganized to reflect transition experience for Title II sites.

The purpose of this Transition Checklist is to provide an effective and consistent method to initiate collection of site information prior to transfer of site responsibilities from the private licensee to LM. Additionally, the data collected via this checklist will be used as a guide to verify that all requirements of the Site Transition Framework are adequately addressed and understood. This checklist will be used to identify site issues. Targeted issues and activities are tracked to resolution on the Site-Specific Punchlist. The data and information collected will ensure DOE's concerns are addressed in the transition process, support development of the long-term surveillance plan (LTSP) and supporting documents, and ensure that future stewards will have a technical basis for decision making.

Information collected to complete the checklist should be directed toward the expected end-state conditions at the site rather than current conditions. As the date nears for transition of the site to LM, end-state conditions may differ from previous expectations. These changes will be monitored and the Site-Specific Punchlist updated accordingly.

General Site Information

Site Name _____Site Mnemonic_____

Site Location (Address/Sec., Twp., Rng.)_____ State_____ Zip Code _____

Nearest Major City/Town _____

Licensee Contact Person*_____

Licensee Contact Phone Number (_____)_____

Licensee Contact email address _____

DOE Site Lead _____Phone (_____)_____

DOE Realty Officer _____Phone (_____)_____

LMS Site Lead _____Phone (_____)_____

*The site lead will maintain contact information in the appropriate LM systems.

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1.0 General Information

1.1 Organizational Structure

1.1.1 What is the organizational structure of the licensee's reclamation and groundwater remedy programs, including licensee, contractors, and subcontractors? (See Section 3.0 for additional details)

1.1.2 What are the major responsibilities for each organization listed above?

1.1 Notes: _____

1.2 Principal Stakeholders

1.2.1 Who are the principal stakeholders and their affiliations? Which groups will maintain an interest after transition? (See Section 8.0 for additional details)

1.2 Notes: _____

1.3 History of Site

1.3.1 Which documents provide an overview of the site history for LM personnel to gain a better perspective of the overall site issues in the past? What is the status of the surface reclamation and groundwater remedy at the site?

1.3 Notes: _____

1.4 Site Conditions

1.4.1 What are the end state conditions expected for the site?

1.4 Notes: _____

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2.0 Legal Requirements

2.1 General Information

2.1.1 Under what authorities are cleanup and LTS&M being undertaken?

2.1.2 What are the regulator (EPA, state, NRC, tribe, local) roles in the cleanup and LTS&M?

2.1.3 Obtain regulatory agency contacts and capture in the appropriate LM systems..

2.1.4 What other regulatory agencies have roles in the cleanup and LTS&M?

2.1.5 Are there legislative constraints or requirements for the property?

2.1.6 Have groundwater standards, trigger levels, or target levels been exceeded?

2.1 Notes: _____

_____

_____

2.2 Environmental Compliance Requirements

2.2.1 Has a review been conducted of environmental compliance requirements under Federal Facility Compliance Agreements, Memorandums of Understanding, directives from States, letters from Tribes, and local authorities?

2.2.2 Has a review been conducted of compliance requirements under Safe Drinking Water Act, Clean Water Act, Clean Air Act, Solid Waste Disposal Act, and corresponding state and tribal requirements? These include:

- Well permits (monitoring, extraction, and injections), permit ownership status, (e.g., will the permit be transferred to DOE?), well construction logs, locations, and abandonment reports, regulatory agency, Notices of Violation (NOVs) and transition carry-over.
- Extraction well water use permits or agreements and reports, NOVs and transition carry-over.
- National Pollutant Discharge Elimination System discharge and storm water permits, underground injection permits, implementation requirements, Storm Water Pollution Prevention Plans, erosion control plans, reports, regulatory agency, NOVs, transition carry-over.
- Active or passive treatment systems, constituents of concern (COCs), regulatory agency, discharge standards, reports.
- Sanitary sewage operations, permits, regulatory agency, NOVs.
- Clean Air Act-Air Pollutant Emission Notice, air emissions permits, regulatory agency, NOVs, radiation air quality sampling plans, locations, termination or transition path.

- Underground storage tanks or above ground storage tanks for regulated or unregulated storage; remediation status, NOVs or environmental releases, any reports or records.
- Reported site environmental releases not associated with underground or above ground storage tanks, releases exceeding RQs, NOVs, reports or records.

2.2.3 Have Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation, and Liability Act, Toxic Substance Control Act, or UMTRCA waste management requirements been evaluated for onsite nonhazardous waste disposal areas, and has onsite or offsite disposal activities for hazardous waste been identified and evaluated? These include:

- Onsite disposal locations, permits, regulatory agency, waste types (e.g., asbestos, PCBs, lab waste), and volumes.
- Previous 3 years of onsite or offsite disposal records, waste types, volumes, offsite facilities, hazardous waste generator status, regulatory agency, NOVs, assessments and transition carry-over.
- Waste-generating operations that are expected to continue after transition for long-term surveillance and maintenance activities (e.g., investigation-derived waste) Description of waste streams resulting from the ongoing waste-generating operations?
- Frequency/amount of waste disposal from ongoing waste-generating operations.
- Procedures for managing ongoing waste streams.
- Anything currently known about future land use require new/different waste streams or disposal paths under LTS&M.

2.2.4 Was a status of wetlands and floodplain actions and assessments conducted? These include:

- 404 permits, requirements, NOVs and current status, transition path.
- 401 requirements, documented remediation impacts to surface water, follow-up actions.

2.2.5 Were there any State Historic Preservation Officer (SHPO) and/or the Tribal Historic Preservation Officer (THPO) historical and cultural assessments and surveys, correspondence, plans, agreements, NOVs, special requirements, local regulations, and reports to develop transition actions?

2.2.6 Were there any T&E Species assessments? Any Take Permits?

2.2.7 Did the licensee conduct sustainability evaluations, including: Waste Management/Pollution Prevention, climate change, energy and water use efficiency, or aspect evaluations to support transition EMS actions?

2.2.8 Were NEPA requirements evaluated for proposed actions? (Site actions may include, but are not limited to, the transition, the LTSP, or withdrawal of federal lands and interests. This includes:

- Review of existing NEPA documentation for the site.
- Identification of proposed activities and determination of level of required NEPA evaluation.
- Generating the NEPA documentation that evaluates the known transition-related actions.
- Completing an additional NEPA review when long-term or other activities are identified.

2.2.9 Were applicable Tribal/Native American regulations or agreements, NOVs and interactions necessary to complete through transition reviewed?

2.2.10 What host state regulations replace federal authority at the site (e.g., solid waste disposal, mined land reclamation, well permits, water regulations both on and offsite)?

2.2.11 Have state requirements (e.g., noxious weeds, well permits, groundwater or surface water points of compliance) been identified?

2.2.12 What local regulations are applicable (e.g., drinking water, conditional use permits)?

2.2.13 Have reports, regulatory drivers and due dates for all reporting requirements been identified? These might include:

- Annual Site Environmental Report per DOE Order 231.1A
- EPCRA reporting under Section 312 or Section 313
- RCRA biennial hazardous waste report
- RCRA 3016 biennial report
- CERCLA 5-Year Review
- State or tribe required reports (air, surface water, groundwater, land, waste, other)

2.2 Notes: _____

2.3 Cooperative Agreements

2.3.1 What cooperative agreements are in effect with other entities, such as Native American Tribes, other federal agencies, states, or local governmental agencies; and where are they located or available?

2.3 Notes: _____

2.4 Interagency Agreements

2.4.1 What, if any, agreements are in effect with other federal agencies, such as Memorandums of Understanding with the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency (i.e., for dual-regulated sites, where both UMTRCA and CERCLA authority applies), or others?

2.4 Notes: _____

2.5 Post-Closure Agreements

2.5.1 What, if any, post-closure agreements have been discussed, started, or completed that are required for LTS&M or long-term stewardship?

2.5 Notes: _____

2.6 Other Requirements

2.6.1 What DOE policy, orders, and guidance apply?

2.6.2 List any other regulatory drivers not already addressed.

2.6.3 What regulatory issues are unresolved?

2.6.4 What, if any, lawsuits or pending natural resource damage claims exist?

2.6.5 Are there any other types of legal agreements that LM will need to consider accepting, maintaining, or be aware of?

2.6.6 What closeout actions, regarding agreements, are in progress that need to be completed?

2.6.7 Are there any state cleanup oversight Agreements in Principle to close out?

2.6 Notes: _____

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3.0 Transition Project Management

3.1 Roles and Responsibilities (DOE/Contractor)

3.1.1 Who is responsible (DOE and contractor) for major activities that will be required for transition?

3.1 Notes: _____

3.2 Points of Contact/Interfaces

3.2.1 Who are the primary points of contact between DOE and other parties and agencies to the transition?

3.2.2 Has the contact information been entered into the appropriate LM systems?

3.2.3 What are the protocols for communicating with DOE and other parties and agencies to the transition?

3.2 Notes: _____

3.3 Project Plans

3.3.1 Where are the pertinent project planning documents and procedures located or available (site transition checklist, punchlist, status sheets, LTSP development and implementation guidance? These might also include H&S, QA, or Program Management plans, Task Assignments, or the Life-Cycle Baseline.

3.3.2 What changes to the project plans are required as the site transitions and LTS&M begins?

3.3.3 What management systems (e.g., Integrated Safety Management, Quality Assurance, Environmental Management System, Radiation Protection/Price Anderson) will need to be established and maintained? Where are the implementing plans located or available?

3.3 Notes: _____

3.4 Scope, Cost, and Schedule

3.4.1 Major Milestones

3.4.1.1 What are the major milestones for site transition and the statuses?

3.4.1.2 When is the official target transition date?

3.4.1.3 What other dates are significant to the site in regard to transition activities regulatory closeout of surface reclamation and approval of the groundwater remedy, realty actions, etc.?

3.4.2 Transition and LTS&M Cost and Scope

3.4.2.1 Has LTS&M scope been established in the LTSP and have DOE cost estimates been provided for NRC's determination of the long-term surveillance charge?

3.4.2.2 Do LTS&M schedule, scope, and cost reflect final site conditions described in the LTSP?

3.4.2.3 If transition is suspended to resolve technical issues or for other reasons beyond DOE control, have the baselines been updated?

3.4.2.4 Do out year cost estimates, including the lifecycle baseline and long-term surveillance charge estimates, reflect residual risk?

3.4 Notes: _____

_____

_____

4.0 Environmental, Engineering, and Technical Information

Information, including records, typically needed for transition, development of the LTSP, and for LM's long-term stewardship mission is listed in the table at the end of this section. Use the table as a checklist to identify missing information and to indicate information that is not needed for a specific site. Acquired information must be integrated into LM systems.

4.1 Documentation of Surface Remedy

Use the table at the end of the section as a guide to obtain needed information as appropriate. Information must be sufficient to evaluate the surface remedy and to capture knowledge needed by future stewards, as described in Section 5.2.

4.1 Notes: _____

4.2 Documentation of Groundwater Remedy

Use the table at the end of the section as a guide to obtain needed information as appropriate. Information must be sufficient to evaluate the groundwater remedy, as described in Section 5.3.

4.2 Notes: _____

4.3 Land Survey

Use the table at the end of the section as a guide to obtain needed information as appropriate. Information must be sufficient to evaluation the DOE real property position and to transfer title to the site, as described in Section 7.

- Is backup documentation complete?
- Are coordinate system descriptions complete?
- Do surveys close?
- Are source documents for electronic survey data archived?

4.3 Notes: _____

4.4 Site Mapping Features and Metadata

Use the table at the end of the section as a guide to obtain needed information as appropriate. Information must be sufficient to identify what elements were part of the site and operations and which site features that will remain after transition.

4.4 Notes: _____

4.5 Ecological Data

Are the following elements of the site ecology completely documented?

4.5.1 Soils Information

4.5.1.1 Have site soils been mapped and described? If so, have parameters such as soil depth, texture, pH, or salinity been documented?

4.5.1.2 Have hydric soils been identified on the site?

4.5.1.3 Have "reclaimed" versus "undisturbed" areas been identified and mapped?

4.5.1.4 Have areas of existing or potential erosion been documented?

4.5.1.5 Has a soil scientist reviewed the soil map and information?

4.5.2 Vegetation Information

4.5.2.1 Have plant communities been described and mapped on the site? If so, have species composition and vegetative cover been documented (also see Section 4.1.2.2)?

4.5.2.2 Are threatened, endangered, rare, or sensitive plant species present on or near the site?

4.5.2.3 Have the locations and types of noxious weed infestations on and adjacent to the site been documented (also see Section 4.5.2)?

4.5.3 Wildlife Information

4.5.3.1 Have wildlife species and habitats on the site been documented?

4.5.3.2 Could a threatened, endangered, candidate, or sensitive wildlife species be present on or near the site?

4.5.3.3 Does critical wildlife habitat occur on or near the site?

4.5 Notes: _____

4.6 Environmental Monitoring Data

4.6.1 Have data been preserved in LM systems in their original format?

4.6.2 Are data sets complete?

4.6.3 Have data been QC'd and verified?

4.6.4 Are data locations in LM systems (e.g., LM environmental data system, Documentum) described in the site collection for accessibility?

4.6.5 Are needed data available in LM electronic systems?

4.6 Notes: _____

4.7 Technical Information Management Systems and Applications (Environmental Data Management Systems, GIS, etc.)

4.7.1 Are systems fully documented?

4.7.2 Does LM possess the source code?

4.7.3 Does LM possess the license agreements?

4.7.4 How are the systems archived?

4.7.5 Are management and preservation requirements documented and made a part of LM operations requirements?

4.7 Notes: _____

Table 1. Documents and Information Typically Needed for Transition, LTSP Development, and Long-Term Stewardship

LM and LMS SMEs from the transition team will use this checklist to identify the data and information to request and acquire for site stewardship. The LM site manager will use the list to help determine how to proceed with data and information collection.

Site Name: _____

Needed			Document Type	Notes
Yes	No	N/A		
General LTS&M				
			Site history (summary history of site operations and previous owners, historical photos of previous operations, etc.)	
			Specific radioactive material license	
			Stakeholder list	
Surface Remedy				
			Conceptual site models, risk assessments, feasibility studies	
			Reclamation Plan, including design-basis documentation, engineering calculations, final design drawings, constructions specifications, and regulator concurrence	
			Information on cell contents or specific placement of cell material (includes commercial disposal, alternate feed, and non-11e.(2) material)	
			Erosion control structures (e.g., surface water diversion channels, aprons, toe drains	
			Construction records and quality control documentation	
			As-built drawings of engineered systems and structures	
			Licensee operating manuals and procedures (for use in the event of a leachate system)	
			Cell stability monitoring data (e.g., settlement, drainage estimates)	
			Final status survey results	
			Radon flux survey results	
			Closure documents (CRRs, etc.)	
			Risk assessment based on final conditions	
			Regulator concurrences	
Groundwater Remedy				
			Hydrogeology and geology of region and disposal site area, including aquifer characterization tests (including baseline data)	
			Groundwater characterization reports	
			Well completion and lithology logs for wells used for modeling and groundwater modeling	

Table 1 (continued). Documents and Information Typically Needed for Transition, LTSP Development, and Long-Term Stewardship

Needed			Document Type	Notes
Yes	**No**	**N/A**		
			Description of groundwater contaminant fate, transport, and geochemical modeling and model files, including predictive plume maps for modeled constituents	
			Description of corrective action program	
			Groundwater monitoring/data reports (including background values for constituents of concern)	
			Water Sampling and Analysis Plan and procedures	
			Conceptual model	
			Groundwater model files, check to ensure they can be manipulated	
			Groundwater remedy application (e.g., ACL application) and supporting documentation	
			Risk assessment	
			Regulator concurrences	
Land Survey				
			Drawing and/or coordinate listing of all horizontal and vertical control points used to establish site features and legal boundaries. This must include the controlling monument and other set or found monuments.	
			Coordinate system information, geographic or projected (horizontal and vertical datums)	
			Coordinate system conversion information (if any information, data or drawings to be provided is in a modified or local system)	
			Survey files, including name of company that performed the survey	
			Recorded deed	
Site Mapping Features and Metadata				
			Imagery (orthophotography, quad sheets, etc.)	
			Electronic files for geospatial, environmental, and design data; TIN files, mass points, breaklines, 2D contours on elevation	
			Licensee site-specific coordinate system conversion information and data (site projections, local coordinate grids, conversion to NAD-83 coordinate system), if applicable	
			Political/institutional control boundaries	
			Vegetation/wetlands	
			Soil types	
			Structures (buildings, tanks, fences, waste containment and management structures, etc.), evaporation/holding ponds, groundwater corrective action features, including injection and extraction wells	
			Adjacent structures and features (up to 0.25 mile from the site)	
			Road, trails, and fences, both onsite and near-offsite	

Table 1 (continued). Documents and Information Typically Needed for Transition, LTSP Development, and Long-Term Stewardship

Needed			Document Type	Notes
Yes	**No**	**N/A**		
			Site surveillance features (e.g., signs, site markers, wells, fences, and gates)	
			Topography	
			Contamination areas (soil, groundwater, etc.)	
			Geology	
			Water features (lakes, rivers, drainages, etc.)	
			Land features (landforms, former open-pit mines and mine shafts)	
			Easements/rights of way	
			Surface ownership (federal, state, private), site boundary	
			Subsurface ownership (federal, state, private), i.e., mineral rights, including leasable minerals such as oil and gas, coal, geothermal, potash; locatable minerals (e.g., uranium, copper, silver, gold); and saleable minerals (sand, gravel, rock riprap, flagstone)	
			Land use (current and future)	
			Transportation (roads, railroads, etc.)	
			Survey control and other monuments	
			Utilities (gas, electric, water, phone, other piping, etc.), both active and abandoned, utility corridors, and easements	
			Historical and cultural features (former features of historic significance, cultural resource location maps and reports)	
			Original (pre-reclamation, if available) and final, post-reclamation site topographic map	
			Aerial photograph of site after reclamation is completed (geo-referenced preferred)	
Environmental Compliance				
			Historical NEPA documentation, including environmental assessments for site activities or equivalent	
			Cultural resource inventories and consultation letters	
			Threatened and endangered species surveys and associated consultations	
			Well permits and abandonment records for wells inside the LTCB	
			Additional historical information or documentation that might be needed for LTS&M	
			Regulatory permits expected to be transferred to DOE	
Real Property				
			Stamped, sealed land survey (including both ownership and long-term care boundary, if different)	
			Ingrants and outgrants (e.g., rights-of-way, easements)	

Table 1 (continued). Documents and Information Typically Needed for Transition, LTSP Development, and Long-Term Stewardship

Needed			Document Type	Notes
Yes	**No**	**N/A**		
			Legal description of final "restricted area" boundaries	
			Title documentation, including all existing easements or other title exceptions	
			Recorded Deed of Transfer	
			IC instruments with legal descriptions	
			Withdrawal file from BLM	
			Public Land Order	
			Adjacent property ownership maps, including any rights-of-way across site property, if applicable	
			Subsurface ownership, rights, and restrictions	
			Water rights	
			Grazing rights	
			Sampling location access agreements	
Information Management				
			Inventories of site records collections	
			Metadata and disposition schedule for non-DOE collections	
Environmental Monitoring				
			Basic site data (name, location, coordinate systems, etc.)	
			Sampling locations (both onsite and offsite)	
			Well/borehole construction/lithology data	
			Chemistry data (water, soil, sediment, vegetation, biota, air filter, etc.)	
			Sampling field measurements	
			Water levels	
			Automated measurements	
			Pumping/flow data	
			Air monitoring data	
			Meteorological data	
			Ecological data (soil, plant, and wildlife surveys, etc.)	
			Radiation measurements	
			Standards, site-specific standards, permit limits, action levels, cleanup goals, etc.	
			Sampling plans	
			Well completion, lithology, and geophysical logs and video well surveys for all wells transferred to DOE	
			Documentation on data quality or data quality assessment reports	

Table 1 (continued). Documents and Information Typically Needed for Transition, LTSP Development, and Long-Term Stewardship

Needed			Document Type	Notes
Yes	**No**	**N/A**		
Technical Information Management Systems and Applications				
			System administration guides	
			Users' guides	
			Data dictionaries	
			Entity relationship diagrams	
			Source code	
			License agreements	
Photographs				
			Historical photos	
			Construction photos	
			Aerial historical and progress photos	
Site Closure				
			Completion Review Report (agreement states only, indicates that state finds reclamation is complete and specific license can be terminated)	
			Construction Completion Report	
			Regulator concurrences	
			Risk assessment based on final conditions	

5.0 Remedy Management

Information acquisition is addressed in Section 4.0. Ensure the responses to items in this section are backed up by documentation.

5.1 Site Remedies

5.1.1 Identify site COCs (radioactive, chemical, other).

5.1.2 Identify site contaminated media (air, surface water, groundwater, land).

5.1.3 Obtain locations and boundaries defining the extent of COCs.

5.1.4 Define the regulatory status of COCs (refer reader to other section if details of COC regulatory status is discussed there).

5.1.5 List any closure elements for which LTS&M requirements are not yet defined. Is the status of the site consistent with the management strategy outlined in the LTSP?

5.1.6 Are LTS&M requirements established that will be incorporated into the LTSP?

5.1.7 What are the existing surrounding land uses?

5.1 Notes: _____

_____

_____

5.2 Surface Remedy Evaluation

5.2.1 Are the design bases defined?

5.2.2 Are design files (including final construction specifications) for the remedy system and site reconstruction complete, descriptive, and adequate for future decision making?

5.2.3 Are drawing sets for engineered systems and structures complete and descriptive, and adequate for future decision making?

5.2.4 Has a geotechnical stability evaluation been conducted and documented?

5.2.5 Was seismic stability evaluated?

5.2.6 Was cover performance evaluated?

5.2.6.1 Has an ecologist reviewed the cover design and cover performance calculations?

5.2.6.2 Have the current and projected future plant communities, including plant abundance, been documented for the cover?

5.2.6.3 Have the potential effects of ecological succession and soil-forming processes on long-term cover performance been investigated?

5.2.7 Have radon flux measurements been evaluated?

5.2.8 Are all cell contents documented? Has the licensee obtained DOE commitment to accept title to the site for all non-11e.(2) and alternate feed material?

5.2.9 Have a qualified engineer and an ecologist reviewed the cover design and cover performance calculations? Are cell management requirements defined?

5.2.10 Have the current and projected future plant communities and plant abundance on the cover been documented?

5.2.11 Is the growth of deep-rooted plants on the cell required to be controlled?

5.2.12 Have the potential effects of ecological succession and soil-forming processes on long-term cover performance been investigated?

5.2.13 Have criteria that might trigger additional investigation and evaluation been defined?

5.2.14 Is the surface remedy stable and protective and does it comply with applicable requirements?

5.2.15 Are residual risks defined?

5.2 Notes: _____

5.3 Groundwater Remedy Evaluation

5.3.1 Has the conceptual model been validated and evaluated?

5.3.2 Has the remedy basis been evaluated?

5.3.3 Have flow, transport, and geochemical modeling files and other documentation of the remedy basis been evaluated?

5.3.4 Is the cell an ongoing source of groundwater contamination?

5.3.5 Are compliance limits, POCs, and POEs defined?

5.3.6 Is the estimation of the projected plume extent technically sound and conservative?

5.3.7 Has offsite groundwater been classified for protective uses?

5.3.8 Have criteria for additional investigation and evaluation been defined?

5.3.9 Is the groundwater remedy protective and does it comply with applicable requirements?

5.3.10 Has the technical basis for monitoring been defined? Are monitoring requirements consistent with site conditions? What is the exit strategy?

5.3.11 When and how should the groundwater model be validated?

5.3.12 Has local groundwater use been documented? Will it be impacted by site contamination?

5.3.13 Are residual risks defined?

5.3 Notes: _____

5.4 Operations and Maintenance

5.4.1 What are the types and locations of remedy facilities (e.g., tailings impoundment, diversion structures, and monitoring wells)?

5.4.2 Conduct a physical inspection of the facility. Collect GPS location data on principal features and photo-document those features, as appropriate.

5.4.3 Obtain a chemical inventory for any chemicals remaining onsite.

5.4.4 Waste Management

5.4.4.1 What waste-generating operations are expected to continue for LTS&M activities?

5.4.4.2 What are the waste streams resulting from the ongoing waste-generating operations?

5.4.4.3 What is the frequency/amount of waste disposal?

5.4.4.4 What are the requirements and procedures to manage the waste?

5.4.4.5 Will anything currently known about future land use require new/different waste streams or disposal paths under LTS&M? If yes, describe.

5.4.5 Permits

Note: Unneeded Permits generally must be closed by the licensee before transition. DOE will not assume responsibility for permit compliance in the licensee's name. Any permits needed post-transition will be transferred to DOE.

5.4.5.1 What permits are needed for LM operations? When will they be transferred to new parties responsible to maintain them?

5.4.5.2 List the closeout actions in progress and those actions that need to be completed.

5.4 Notes: _____

5.5 Monitoring

5.5.1 Sampling and Analysis

5.5.1.1 What monitoring and reporting requirements will be required and are they in place (e.g., surface water, air, groundwater, soil, biota, T&E species)?

5.5.1.2 What types of long-term monitoring are required by permits or other documents?

5.5.1.3 What real estate permits or instruments, such as access agreements, exist for monitoring? Are they in written form and, if so, does LM have the records?

5.5.1.4 Are standard earthquake monitoring provisions adequate (see LTSP Guidance)?

5.5.2 Data QA/QC

5.5.2.1 Who is on the distribution list to receive various types of monitoring data (e.g., regulators, landowners, or lessees, information repository receiving groundwater quality data)? How do they receive the information?

5.5.3 Analytical Chemistry Laboratory Services

5.5.3.1 Determine if the requirements for analytical procedures differ from LM protocols.

5.5.4 Data Reporting

5.5.4.1 Who is on the distribution list to receive various types of monitoring data (e.g., regulators, landowners, or lessees, information repository receiving groundwater quality data)? How do they receive the information?

5.5 Notes: _____

5.6 Vegetation Management

5.6.1 What are the vegetation management requirements for the site? What are the maintenance and inspection requirements for these measures?

5.6.2 Is there, or will there need to be, noxious weed control for the site?

5.6.3 Who will be responsible for the monitoring?

5.6 Notes: _____

5.7 Institutional Controls (ICs) Management

5.7.1 What ICs are necessary for the site and for any environmental medium (e.g., groundwater, surface use)?

5.7.1.1 What are ICs monitoring and management requirements?

5.7.1.2 How will the ICs be enforced?

5.7.2 What agreements that document required ICs, such as an environmental covenant with the state, a deed restriction with a landowner, have been prepared? Where are these instruments located and are they recorded?

5.7.3 What are the physical controls that are in place or will be needed for the site (e.g., fencing, roads, signs, and other controls)? Are any of these physical ICs considered interim (temporary for clean-up action or security) and will be terminated?

5.7.4 Have the ICs been accepted/adopted by all parties that are affected? If not, what is the process for reaching agreement?

5.7 Notes: _____

5.8 Regulatory Reporting

5.8.1 Identify reports, regulatory drivers, and due dates for all reporting requirements.

5.8 Notes: _____

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6.0 Records and Information Identification, Acquisition, and Administration

6.1 Identify Site-Related Records and Information

6.1.1 Identify the site owner and regulator (e.g., NRC or Agreement State) points of contact knowledgeable of the site information and records and responsible for their transfer to LM.

6.1.2 Initiate the necessary planning meetings for the transfer of information and records from the Licensee or regulator.

6.1.2.1 Prepare a Records and Information Management (RIM) Transition Plan to document the transition and transfer of information and records to LM and to address any records management concerns that may arise.

6.1.2.2 Identify site information and records maintained by the licensee, regulator, and third parties. Include information about reference/library collections and the point of contact for each. The table at the end of Section 4 lists information typically needed for a new site. Additional needs for site-specific information may develop during the site transfer process, and the licensee may be asked to provide additional documents.

6.1.3 Conduct an inventory of the site information and records that include locations, media type (e.g., electronic or paper), and volumes.

6.1.3.1 Identify all records needed by LM to support LTS&M of the site. For assistance, refer to current LM guidance (LMS/S050909, Section 8.0, and LMS/S00336, Section 2.3.10) for a listing of record types.

6.1.3.2 Identify all records needed by LM to support other post-closure administrative activities.

6.1.3.3 Identify any Special Requirement records (i.e., contaminated, damaged, deteriorating, classified, other sensitive marked records). Identify a plan of action for those records. Refer to LM guidance document 243.1-1, Appendix A, Section 3.0 for a complete listing of Special Requirement Records.

6.1.3.4 Identify any electronic records system databases that may be needed by LM to retrieve and manage information and records post site closure.

6.1.3.5 Obtain from the licensee and regulator copies of any finding aids to site records that were sent to a federal, state, or private records storage facilities or archives. Ensure that adequate retentions have been applied to the collections.

6.1.3.6 Develop and provide LM with recommendations for preserving inherited records including scope and costs.

6.1.4 Determine if an Administrative Record (AR) or similar information repository has been created and maintained.

6.1 Notes: _____

6.2 Obtain site information and records and process into LM systems

6.2.1 Verify that all technical records were received to support LTS&M.

6.2.2 Verify that all Real Property records were received to support Asset Management needs.

6.2.3 Verify that all needed CAD drawings and environmental and geospatial data were received and migrated or uploaded into LM systems.

6.2.4 Verify that all records were received to support other post-closure administrative activities.

6.2.5 Obtain electronic records system databases and metadata for non-DOE collections that contain site information and determine if the retention schedule is adequate or if action is needed to ensure permanent retention.

6.2.6 If an AR was created, what are the requirements and is there a plan to manage the collection after transition?

6.2 Notes: _____

6.3 Electronic Formats

6.3.1 Has data and information been requested in the following preferred electronic formats?

- Relational database file formats (*.mdb, *.accdb, *.dbf, *.mdf)
- Electronic spreadsheets (*.xls, *.xlsx)
- eXtensional Markup Language (*.xml)
- Microsoft Office products (Word, Excel, PowerPoint)

6.3.2 Has a data dictionary been requested to accompany electronic data that describes data field contents, entity-relationship diagrams or database schemas if appropriate for the data format?

6.4 Real Property

Identify and obtain documentation for the real property assets listed below. Real property assets are defined as any interest in land, together with the improvements, facilities, structures, and fixtures located thereon, including prefabricated movable structures and appurtenances thereto, under the control of DOE. Real Property Assets are further defined in the *Federal Management Regulations* §101-476.103-12. Consider the following, as applicable:

- Determine what interests will remain at closure both onsite and offsite, including land, easements, mineral and water rights, well permits (ensure all wells to be transferred to DOE are permitted), licenses, and permits.
- Determine any other ingrants or outgrants proposed for transfer to LM.
- Determine future land use for property.
- Obtain as-built drawings for any remaining improvements and utilities.
- Perform a physical inspection of facility.

What authority was used to acquire the interests? What jurisdiction exists? Are these Proprietary, Exclusive, or other federal interests including offsite interests such as easements, licenses and permits? Obtain information on each grantor.

6.4.1 Land

6.4.1.1 What type of title exists and is it in the name of the agency or the United States?

6.4.1.2 Has U.S. Army Corps of Engineers been engaged to process interests in fee land?

6.4.1.3 List any outstanding interests, such as outgrants or easements, deed restrictions, or nonfederal controls or other burdens on the property (Compare to Section 3.6).

6.4.1.4 Are use agreements in effect for portions of the property or for the entire site? If yes, where can these be obtained?

6.4.1.5 Are there outgrants for grazing, access, or research? Describe the revenues generated and the procedure for processing them.

6.4.1.6 Are there any access agreements that are needed for ongoing operations, reuse, or existing third-party activities? If yes, where can these be obtained?

6.4.1.7 Have all unneeded real property ingrants and outgrants been terminated?

6.4.1.8 Are there any regulatory (i.e., RCRA/CERCLA) transfer restrictions?

6.4.1.9 What local government has jurisdiction for the property? Are the realty instruments recorded? If so, where? Are there any zoning or tax issues?

6.4.2 Maps, Plats, and Exhibits

6.4.2.1 Where are the official land surveys, monumentation records, and cadastral surveys records stored and available for use?

6.4.2.2 Where are the official site maps, mineral rights maps, water rights maps, well location maps, easement maps and legal descriptions, oil and gas lease maps, and tribal trust land maps stored and available for use?

6.4.2.3 Where are the master title plats, title plats, and county title plats stored and available for use?

6.4.2.4 Where are the legal descriptions and recorded data stored and available for use?

6.4.2.5 Where are the existing and abandoned utility improvement easements maps stored and available for use?

6.4.3 Mineral Rights

6.4.3.1 What mineral interests are owned by the United States?

6.4.3.2 Were any minerals severed from the surface estate?

6.4.3.3 List any permitted mining operations.

6.4.3.4 If subsurface rights will not transfer to the United States, has the licensee documented that they made a serious effort to obtain them and placed notices in the public record per applicable regulations?

6.4.3.5 Do third-party rights pose a potential risk to the site remedies?

6.4.4 Water Rights

6.4.4.1 What water rights are owned by the United States?

6.4.4.2 List any water rights retained by the former owner(s) of the property.

6.4.4.3 List any outstanding water conveyances on the property and who are the easement holders. Provide copies of the easements.

6.4.5 Well Permits

6.4.5.1 Acquire permit documentation for all wells owned by the United States.

6.4.5.2 Are there abandonment requirements by the state? Who is the state regulatory authority and point of contact?

6.4.5.3 List any offsite permits and access agreements. Provide copies of the records and instruments.

6.4.6 Leasehold Interests

6.4.6.1 What leases exist and are expected to continue? Provide copies of the contracts.

6.4.6.2 List any granted leaseholds to others (outgrants).

6.4.7 Other Real Property Interests

6.4.7.1 List any real estate ICs, such as deed restrictions, covenants, zoning agreements, or easements.

6.4.7.2 Are there any restrictions on the use of airspace over the site? If yes, who is the point of contact?

6.4.8 Infrastructure

6.4.8.1 What utilities or other structures will remain?

6.4.8.2 Are there any leasehold interests associated with any utilities and other structures that will remain? If so, provide addresses of the leaseholders and copies of the agreements. What are the costs, restoration requirements, cancellation or termination costs, and time frame for notices?

6.4 Notes: _____

6.5 FIMS

6.5.1 List any structures that will remain, including:

- Power generation systems
- Fencing
- Disposal facilities
- Electrical distribution stations
- Surface water structures (e.g., drainage channels, streams, dams, ponds flow controls, flow diversions)

6.5.1.1 What existing utilities will remain?

- Identify types and names of service providers (e.g., transmission or service, electric, natural gas, domestic water, sewage)

6.5.2 Are Facilities Information Management Systems (FIMS) reporting requirements being met?

6.5.2.1 Who is the FIMS administrator for the property and are the records (required fields) populated?

6.5 Notes: _____

6.6 Reuse

6.6.1 Has the site been evaluated for reuse?

6.6.2 If existing or proposed post-transition, has reuse information been included in the LTSP?

6.6 Notes: _____

7.0 Stakeholder Relations

7.1 Stakeholders

7.1.1 Who are the major stakeholders and key individuals who may be interested in the site after transition?

7.1.2 What is the relationship between the site and these entities (e.g., is it cooperative or adversarial)?

7.1.3 Have any major issues with any stakeholder groups been identified? Who is actively involved and what is the resolution status?

7.1.4 How active are the stakeholders (what is their interest level, how organized are they)?

7.1.5 How does the licensee communicate with the stakeholder groups?

7.1.6 Surrounding Landowners/Users

7.1.6.1 Who are the current landowners and users of adjacent properties?

7.1.6.2 What are the implied or written expectations of these landowners?

7.1 Notes: _____

_____

_____

7.2 Contact Information

7.2.1 Obtain electronic copies of key contacts mailing lists.

7.2.2 Has all stakeholder contact information been included in the LM Stakeholder database?

7.2.3 Has new contact information been made available to the public via the LM Website?

7.2 Notes: _____

_____

_____

7.3 Stakeholder Outreach

7.3.1 Have all the required documents and links for the site website been identified and generated?

7.3.1.1 Site Fact Sheet

7.3.1.2 LTSP

7.3.1.3 Inspection/Sampling Schedule

7.3.1.4 Annual Inspection Reports

7.3.1.5 Regulatory Framework

7.3.1.6 Additional Site Specific Documents

7.3 Notes: _____

_____

_____

Attachment 6

Example of a Site-Specific Transition Punch List: Maybell West, Colorado, Disposal Site

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UMTRCA Title II Site Transition Punch List
Site: Maybell West, CO, UMTRCA Title II Disposal Site
DOE Site Lead: Tracy Ribeiro
DOE Reality Officer: Bill Montana
Contractor Program Manager: Mike Widdop
Contractor Site Lead: Steve Hall
Estimated Site Transition Date: 2010
Licensee: Umetco Minerals Corporation

LM Checklist Section No. *	Action	Task Lead	Date started	Date Due	Date Completed	Status: Check one			Notes on Actions & Issues (Path Forward)
1.4.5 & 4.6	Determine if any institutional controls (ICs) are needed; if so, acquire	SH, CB	10/1/2007	8/30/2009	7/8/2009				Standard ICs are being acquired (i.e., site ownership/control, perpetual access). A deed notice for the outstanding 3rd party subsurface mineral rights was prepared by Umetco (licensee) and recorded in the local public land records as required by 10 CFR 40 Appendix A (Criterion 11-C) on 7/8/09. DOE reviewed and provided input.
3.6.4-3.6.6	Acquire copies of any and all agreements needed post transfer	CB	10/1/2007	8/30/2009	8/1/2009				Confirm Umetco terminates their former haul road ROW (DOE secured ROW for site access on 9/16/08).
3.6.5	Acquire ROW permit from BLM for perpetual unfettered site access route	CB	10/1/2007	10/30/2008	9/16/2008				BLM issued DOE's 299 ROW permit for site access on 9/16/08.
5.1	Obtain all pertinent real property records	CB	10/1/2007	2/1/2010	1/30/2010				Real property records obtained from licensee. Information will accompany updated title work required for USACE preparation of the warranty deed. Includes both surface and subsurface interests.
6	Obtain all pertinent geospacial information/data for the site	EL	10/1/2007	8/30/2009	12/31/2009				Site information complete. Received historic aerial photography, TOC elevations, information on the local coordinate system, etc.
6	Create a GEMS page for the site and link it to the site's webpage	EL	10/1/2007	1/30/2010	6/11/2010				GEMS page complete.
6	Obtain all pertinent environmental monitoring data for the site	KM	10/1/2007	8/30/2009	12/31/2009				Historical and existing site monitoring data obtained and loaded into SEEPro (note; long-term ground water monitoring is not required at the site).
6	Obtain all pertinent engineering information for the site	JW, EL	10/1/2007	8/30/2009	12/31/2009				Information received and archived (e.g., reclamation plan, as-builts, completion report).
6	Obtain all site as-built drawings	JW	10/1/2007	8/30/2009	12/31/2009				Disposal cell and associated surface water drainage/control features design drawings/as-builts received and archived (AutoCAD format and hard copy).
6	Obtain current civil base and topographical maps of the site	JW	10/1/2007	8/30/2009	12/31/2009				Information obtained; civil and topo base generated.
6	Create a land use and ownership map for the site	JW, CB, SH	10/1/2007	8/30/2009	2/15/2010				Land use and ownership map depicts the various real property interests at the site.
7	Obtain all pertinent technical and other site records	SH	10/1/2007	8/30/2009	1/31/2010				Obtained copies from licensee (Umetco); examples - reclamation plan, completion report, and Umetco records index.
7	Determine site records to be posted (or linked) on the LM webpage	SH	10/1/2007	8/30/2009	3/30/2010				LTSP, fact sheet, annual inspection and monitoring report (with links to completion report, reclamation plan).
7	Determine if revegetation success is adequate	MK, LS	10/1/2007	8/30/2009	8/4/2009				Site vegetation baseline assessment conducted 8/3 & 8/4/2009. Reveg is sufficient (significant improvement from 2007). Noxious weeds continue to be controled (sprayed with herbicide).
7.1.1	Obtain permanent withdrawal from BLM	CB	7/20/2007	8/30/2009	4/18/2008				Permanent withdrawal published in Fed Reg 4/18/08.
7.1.1.11	Ensure no wells remain onsite	CB, KM, SH	10/1/2007	8/30/2009	7/8/2008				No wells exist on site (GW monitoring not required). Records obtained from Umetco for historical on site wells (well construction info, CDPHE approval to discontinue monitoring & decom wells).
7.1.2.3	Obtain Master Title Plats and Historical Register pages	CB	10/23/2007	8/30/2009	11/7/2007				Received and archived.
7.1.3	Determine rights afforded under millsite claims (and should they continue)	CB	10/1/2007	8/30/2009	7/15/2008				Millsite claims are senior to the lode claims which are senior to withdrawal. Because there is no longer a mill on site, BLM informed DOE that millsite claims can not be maintained by DOE to minimize risk associated with the lode claims that pre-date withdrawal. The NRC general license at 10 CFR 40.28 provides protections against any surface or subsurface activities that could impact the disposal cell and it's associated structures.
7.1.3	Determine risk posed by lode claims that pre-date withdrawal	CB	10/1/2007	8/30/2009	12/31/2009				Lode claims are senior to the withdrawal. DOE contacted BLM and determined there is minimal risk; BLM will discourage action. BLM should send letter to owners of load claims informing them that a disposal cell is present on site which is protected from disturbance under the NRC general license at 10 CFR 40.28. Example; BLM received a letter (Dec 2005) from Standard Uranium acknowledging the withdrawal but indicating that Western Fuels mining claims clearly pre-date the Fed Reg Notice and remain valid.
7.1.3	Determine if UMETCO offer to buy mineral rights for the 20-acre parcel is adequate (satisfies "serious effort" called for in the regs) and that required deed notice is filed with local public land records	CB	10/1/2007	8/30/2009	7/8/2009				Umetco submitted 1st offer to purchase outstanding 3rd party minerals in Aug07; all refused. 12-13-07; DOE requested Umetco to send 2nd "best & final" offer (sent Feb08) -- all but one refused -- 18% of minerals obtained. 1/8/09, DOE received decision from NRC that per regs only a "serious effort" to obtain 3rd party mineral rights is required. Umetco provided CDPHE documentation of serious effort made. 2/16/09; CDPHE verified that serious effort was made and sent letter to NRC (cc DOE). 7/8/09; Umetco recorded deed notification in public land record as called for by the regs; DOE provided guidance, review, and comment (Jan09). DOE received assurance from NRC no future action will be needed regarding minerals and no increase to the long-term care fee is warranted.
7.1.6	Determine impact, if any, of permanent withdrawal on grazing allotment	CB	10/1/2007	8/30/2009	12/31/2009				Umetco indicated that historically the local rancher has had no interest in grazing within the site boundary.

* LM Transition Checklist (October 10, 2007 revision)

Estimated Site Transition Date: 2010
Licensee: Umetco Minerals Corporation

LM Checklist Section No. *	Action	Task Lead	Date started	Date Due	Date Completed	Status: Check one			Notes on Actions & Issues (Path Forward)
7.1.9	Determine what will need to be tracked in FIMS, ensure accounting set up	SH	10/1/2007	8/30/2009	12/31/2009				No structures onsite, only OSF's are the disposal cell, fencing, and site marker (no monitor wells). Offsite ROW access road is not a FIMS tracking item.
	Verify perimeter warning signs are posted at the site	SH	10/1/2007	8/30/2009	8/6/2009				Umetco was provided sign schematic and site map with proposed locations in Aug07. Umetco posted signs prior to site transfer. Verified 08/06/2009.
	Verify site marker is erected at the site	SH	10/1/2007	8/30/2009	7/17/2008				Site marker placement verified 7/17/08.
3	CIP complete (real property inspection required prior to transfer)	CB, SH	10/1/2007	8/30/2009	10/21/2009				In order for USACE to complete the warranty deed for the site fee land, DOJ requires a site inspection prior to transition. 6/13/08; USACE sent DOE a request to perform the inspection, along with a Certificate of Inspection of Possession form (CIP#2) to complete. Bill Montana (DOE Reality Officer) completed CIP inspection on 10/21/09.
3	Determine and obtain evidence for corporate authority for signing conveyance documents	CB, SH	10/1/2007	8/30/2009	2/10/2010				DOJ requirement. Umetco provided Corp Authorization on 2/10/2010. Included with USACE package. Provided to Title Co.
3	Determine and ensure current year taxes are paid by licensee (Umetco)	CB, SH	10/1/2007	8/30/2009	1/26/2010				USACE paid taxes to Moffat County -- received check from Umetco on 1/26/2010.
3	Title Insurer requires a signed and delivered affidavit and indemnity document	CB, SH	10/1/2007	8/30/2009	2/9/2010				USACE ensured Umetco obtained a copy from insurer and arranged for it's signature and delivery.
3	Ensure warranty deed is secured by the USACE and provided to DOE	CB, SH	10/1/2007	8/30/2009	2/10/2010				Umetco provided the recorded warranty deed to DOE and the USACE on 2/10/2010 (it was recorded with Moffat County on 2/09/2009).
3	DOE consultation with NRC regarding long-term care fee	SH	10/1/2007	8/30/2009	11/16/2009				DOE input to NRC regarding the long-term care fee was provided by letter dated 11/09/2009; DOE indicated the minimum amount ($250K in 1978 dollars) is sufficient for LTS&M at the site (as there is no groundwater monitoring. Additionally, there is no need to increase the fee for the future purchase of outstanding 3rd party mineral rights (1/8/09; NRC indicated an increase was not warranted).
3	Ensure licensee pays LTS&M fee to the US Treasury	SH	10/1/2007	8/30/2009	3/9/2009				On 3/9/2010, NRC notified DOE by e-mail that the LT care fee was paid by Umetco.
8.1	Create contact list	SH, BD	10/1/2007	8/30/2009	3/30/2010				The Land Management contacts list in Outlook is being used to generate the site contacts/stakeholder list. The primary site and regulatory stakeholders have been entered. Stakeholders will also be solicited from the licensee.
8.1	News release notifing stakeholders of site transfer	BD	10/1/2007	8/30/2009	5/13/2010				Following site transfer, DOE-LM issued a news release to notify all appropriate stakeholders of the transfer of the site from Umetco to DOE.
8.4	Create site web page and post it to the DOE-LM website	PP, SH, SM	10/1/2007	8/30/2009	4/30/2010				The site webpage was created and posted to the LM website on 4/30/2010.
8.4	Post site records to website	PP, SH, SM	10/1/2007	8/30/2009	4/30/2010				Pertinent documents and site information was scanned and posted to the site webpage.
8	Create fact sheet and post to site webpage	BD, SH, PP	10/1/2007	8/30/2009	4/7/2010				DOE approved posting of the site fact sheet to the site's webpage.
2.2.1	Ensure draft LTSP addresses control of noxious weeds and invasive plants	SH, SB, MK	10/1/2007	8/30/2009	3/5/2008				LTSP stipulates that DOE will control listed noxious weeds and invasive plants.
3.3	Revise draft LTSP to satisfy NRC technical comments	SH	11/12/2007	3/30/2008	6/10/2009				10/18/07; NRC indicated minor revisions needed (a few NUREG 1620 referenced items need to be addressed). DOE received letter (with RAI) from NRC on 11/14/07. Revised draft LTSP addressing technical issues submitted 3/5/08 ("placeholders" left for real property instruments, i.e., warranty deed, public land records notification of outstanding 3rd party mineral rights, access road ROW permit, permanent withdrawal PLO Federal Register Notice). 4/8/2009; at NRC's request revised LTSP was resubmitted. 6/10/2009; minor comments from NRC received, LTSP was revised (held until warranty deed was completed and inserted).
3	Submit final draft LTSP with real property instruments to NRC	SH	3/5/2008	3/30/2009	2/16/2010				On 2/16/2010, DOE submitted for NRC's acceptance the final draft LTSP revised to address all NRC comments and with all real property instruments inserted (i.e., warranty deed, public land records notification of outstanding 3rd party mineral rights, access road ROW permit, permanent withdrawal PLO Federal Register Notice).
3.3	Obtain NRC acceptance documentation for LTSP	SH	1/2/2007	6/30/2009	3/11/2010				On 3/15/2010, DOE received the NRC's LTSP acceptance letter (dated 3/11/2010) which places the site under the general license at 10 CFR 40.28 establishing DOE as the LT custodian responsible for LTS&M. The acceptance letter indicates the LT care fee ($800,173.56) was paid to the U.S. Treasury, and that as an Agreement State, the State of Colorado will terminate Umetco's specific license (on 3/19/2010, DOE received a copy of the State's termination letter to Umetco dated 3/16/2010). These actions officially complete the site transition from a regulatory perspective.

Note: Status colors are intended to prioritize actions (i.e., the urgency and level of attention needed to complete; in part, because the incomplete action may also be affecting other site transfer issues). Green = minimal attention is needed to complete; progressing, action is not affecting other site transfer issues. Yellow = attention is needed to complete; action has potential to affect other site transfer issues. Red = maximum attention is needed immediately to complete; action is directly affecting other site transfer issues.

Task Lead (Name Abbreviations): SH - Steve Hall, CB - Cheri Bahrke, SM - Sandy McDowell, KM - Keith Miller, JW - Jim Whitney, SB - Sandy Beranich, BD - Bob Darr, PP - Phyllis Price, EL - Ed LaBonte, MK - Marilyn Kastens, LS - Linda Sheader

Last Updated: 6/30/2010

* LM Transition Checklist (October 10, 2007 revision)

Attachment 7

Example of Documentation from Lessons Learned Session: Maybell West, Colorado, Disposal Site

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Lessons Learned; Maybell West, Colorado, UMTRCA Title II Disposal Site Transition

Date: June 24, 2010

Purpose of Lessons Learned Session

The purpose was to evaluate the efficiency and quality of procedures and products in order to make improvements on future Title II site transitions. Information derived from a brainstorming session following the completion of the Maybell West, Colorado, UMTRCA Title II disposal site transition will be beneficial in facilitating future UMTRCA Title II disposal site transitions. Information gained can be used to revise project documents and strengthen work processes. Continual improvement by seeking employee feedback through this type of session following the completion of a site transition implements the intent of DOE's Integrated Safety Management Core Function 5: Provide Feedback and Suggestions.

Lessons Learned Process

The Site Lead requested assistance in conducting a lessons learned session to critique the transition process for the Maybell West, CO UMTRCA Title II disposal site. The site lead met with QA and administrative staff to plan the session. A facilitated brainstorming session with the Title II Transition Team was then held on June 24, 2010 to gather information and recommendations for improvement.

Areas of Discussion; Information and Recommendations for Improvement

Five focus areas; licensee coordination, real property, regulatory, technical issues, and information gathering were discussed and the main issues and recommendations for improvement from each are as follows.

Licensee Coordination

- Begin site transition process no less than two-years prior to anticipated transition date,
- Establish clear lines of responsibility and communication early in the process and maintain throughout the site transition.
- Schedule regular status meetings with core group representatives (licensee, DOE, DOE support, and regulators), discuss issues and concerns, develop path forward.
- Discuss and obtain licensee buy-in to the transition process and adhere to the process.

Real Property

- Research and understand all property issues early on in the process (including both surface and subsurface interests); communicate regularly with licensee, USACE, and BLM. DOE acquisition of fee land (i.e., warranty deed) and securing BLM segregation and withdrawal for federal lands are key ICs in meeting DOE's future long-term care obligations.
- Ensure the site LTS&M boundary and features surveys are accurate and that information needed to enter into the GIS system is obtained from licensee is complete (e.g., resolve any coordinate system discrepancies early on).
- Obtain all the data associated with the site as early as possible (i.e., in-grants and out-grants); plot all existing easements to determine accuracy — expect issues. Ensure site access is secured prior to transition; begin process at least one year prior to anticipated transition date.

Regulatory

- Review site conditions against UMTRCA regulations; become familiar with the site from both technical and real property aspects. Determine if compliance with National Environmental Policy Act (NEPA) was maintained throughout the reclamation and closure process; obtain list of NEPA documents.
- Acquire letters of interpretation and direction, as needed, for specific issues and document DOE's and the contractor's attempt to get guidance on interpretation and decisions made from regulators.
- Communicate with regulators regularly, both early on and throughout the transition process.

Technical Issues

- Groundwater remedy: Obtain original models as a starting point; verify groundwater modeling assumptions, standards, software, and completeness of model information. Review ACL applications and resulting standards thoroughly, along with all associated regulatory decisions and assumptions; evaluate the ability to remain compliant under long-term care.
- Acquire historical monitoring data; evaluate the information and the site's proposed long-term monitoring program as early in the process as possible—incorporate any technically sound modifications to the long-term monitoring program into the LTSP.
- Request the licensee transfer complete historical data in a compatible format as it is generated throughout the transition process.

Information Gathering

- Conduct site visits early on and at least annually throughout the transition process, as well as when information is received that may significantly impact site integrity (obtain licensee approval, regulators generally offer DOE invitation).
- Review and evaluate site information and records for completeness at the beginning of the transition process (engineering information, reclamation plans, completion reports, ACL applications, license amendments, available licensee and regulator correspondence, condition assessments, aerial surveys, photos and topographical information, NEPA documentation).
- Evaluate the management of raw data and field information for retrieval purposes (records); periodically review site historical records and information throughout the process, and for completeness prior to transition.

The information derived from these lessons learned session will be incorporated into the transition processes and will be used to revise the transition process guidance document. Continual improvement by seeking employee feedback through this type of session following completion of a site transition is beneficial and should be performed following each site transition.

Note: The lessons learned session was scheduled to last one hour. The session lasted two hours and not all the topics were completely addressed (i.e., significant issues were discussed; however, additional discussion could have continued that may have provided additional value). A minimum of two hours should be reserved for a session of this type.

References

LMS/S05096, *Process for Transition of Uranium Mill Tailings Radiation Control Act Title II Disposal Sites to the U.S. Department of Energy Office of Legacy Management for Long-Term Surveillance and Maintenance,* June 2009

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